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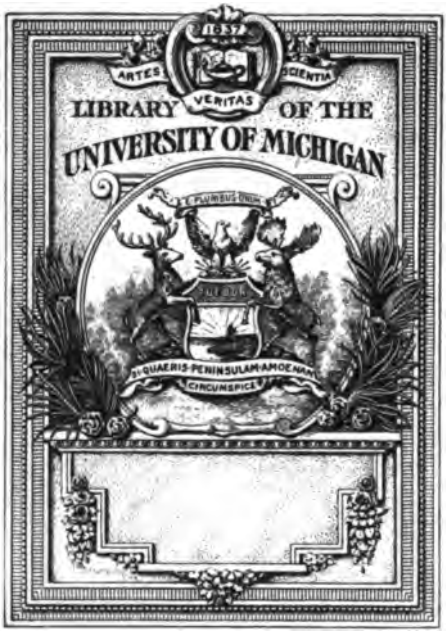

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MDCCCLXV.

VOL. XXIII.

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VOL. XXIII. JANUARY, 1865. No. 265.

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CLINICS.

CLINICAL LECTURES.

Two Lectures on the Laryngoscope. Delivered at the Royal College of Physicians. By GEORGE JOHNSON, M. D., Prof. of Medicine in King's College, &c. &c.

MR. PRESIDENT AND GENTLEMEN: The object of the two lectures which, by your appointment, sir, I am to deliver in this room, may be stated in a very few words. Some amongst the Fellows of the College having given their attention to the subject of the laryngoscope, and having formed a high estimate of the value of the instrument as an aid in the diagnosis and treatment of disease, desire that it should, as speedily as possible, come into general use. They wish to combat the notion that the art of laryngoscopy is so difficult that it can be successfully practised only by a select few, who would make of it a specialty. They, on the contrary, believe that the difficulties which attend the use of the laryngoscope are few, and for the most part such as may be easily overcome by a very moderate amount of practice and perseverance; and they have thought that good might result from the subject being brought before the college by one of their body, who having no claim to the possession of a special knowledge of the art or of particular aptitude for its practice, but having studied and practised it in the ordinary course of his daily work, is willing to communicate the results of his experience, and anxious that others should share with him the pleasure and advantage of possessing a new instrument for exploring a large and important class of diseases.

And now, what is the laryngoscope? The laryngoscope is a small mirror, fixed on a stem or handle of convenient length. This mirror having first been warmed to prevent the dimming of its surface by the patient's breath, is placed in such a position obliquely beneath the palate that, while it reflects the light from the mouth into the larynx, it reflects back an image of the larynx to the

Published monthly by BLANCHARD & LEA, Philad'a, for One Dollar a year; also, furnished GRATUITOUSLY *to all subscribers of the "American Journal of the Medical Sciences," who remit the Annual Subscription, Five Dollars, in advance, in which case both periodicals are sent by mail free of postage.*

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eye of the observer. There are various means, as we shall presently see, for throwing a strong light upon the mirror, but the laryngoscope is simply a small looking-glass—a contrivance, "whose end is to hold, as 'twere, the *mirror* up to nature."

Now, it appears not a little remarkable that a method of exploring the larynx at once so simple and so effectual should not have come earlier into use—that it should have been reserved for the workers of the present time to devise a plan by which literally a new light has been thrown upon a very common, painful, and fatal class of diseases.

And here, it will not, I think, be a departure from the strictly practical design of my lectures if I allude very briefly to the history of this invention, indicating the attempts to examine the larynx which have from time to time been made by various observers, and the successive steps by which the art of laryngoscopy has been improved and simplified.

Attempts to examine the larynx by means of a mirror have, at different times, been made independently by various experimenters. One of the first, if not the very earliest, of these attempts was made by a distinguished Fellow of this college—I mean Dr. Babington, who showed his instrument at a meeting of the Hunterian Society in March, 1829—*i. e.*, thirty-five years ago. The instrument was essentially the same as that now in use, and the following description of it was published in the third volume of the *Medical Gazette*, p. 555. "It consisted of an oblong piece of looking glass set in silver wire with a long shank. The reflecting portion is placed against the palate, whilst the tongue is held down by a spatula, when the epiglottis and the upper part of the larynx become visible in the glass." The report adds that "the doctor proposed to call it the *glottiscope*." Dr. Babington afterwards had his mirror made of polished steel, and in one he combined a tongue-depressor with the mirror. He also had one mirror of ovoid shape, which was convenient for use when the tonsils were enlarged. Dr. Babington tells me that he was in the habit of illuminating the throat by reflecting the light of the sun from a mirror held in the left hand. It was long after Dr. Babington had published the account of his glottiscope that Mr. Liston, in his *Practical Surgery* (1840), referred to the use of a dentist's mirror for obtaining a view of the glottis.

MM. Trousseau and Belloc, in a treatise on Laryngeal Phthisis, which was published in the year 1837, refer to a *speculum laryngis*. It was made by a M. Selligue, an ingenious mechanic, who had himself suffered from laryngeal phthisis. The instrument consisted of two tubes, through one of which the light was thrown on the glottis, while through the other the image of the glottis was reflected from a mirror placed at its guttural extremity. The authors state that the instrument was very difficult of application, and that not one person in ten could bear its introduction.

The late Mr. Avery worked long and successfully in the construction of a laryngoscope and other instruments for the examination of internal organs, but he published nothing on the subject.[1]

In the year 1844, the late Dr. Warden invented a prismatic speculum, with which he succeeded in seeing disease of the glottis in two cases.[2]

It is a well-known fact that the first experimenter who succeeded in obtaining a view of his own larynx is a distinguished professor of music in this town, M. Garcia.

M. Garcia had long studied the anatomy and physiology of the larynx as the organ of the voice, and he had a great desire to see the movements of the living larynx. At length he attained the desired object by a very simple plan. Standing with his back to the sun, he held a looking-glass in his left hand before his face; the sun's rays were reflected by the glass into his open mouth. Then he introduced a dentist's mirror, previously warmed, into the back of his mouth, and thus he saw the reflection of his larynx in the looking-glass.

M. Garcia gave the results of his observations in a very interesting paper, entitled "Physiological Observations on the Human Voice," which was published in the "Proceedings" of the Royal Society in the year 1855. This paper was destined to be the germ of further important observations and discoveries. It became known to Dr. Türck, of Vienna, and it induced him to use the laryngeal mirror in the wards of the general hospital there during the year 1857.

[1] Introduction to the Art of Laryngoscopy. By Dr. Yearsly. 1862.

[2] British and Foreign Medico-Chirurgical Review, Jan. 1863, p. 210.

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Towards the end of that year Dr. Türck lent his mirrors to Dr. Czermak, who set to work with great zeal and energy. He soon made the important step of adopting the large ophthalmoscope reflector as a means of concentrating artificial light, thus making the laryngoscope available at all times as a means of inspecting the larynx, and of guiding the hand in the application of local remedies. Czermak soon saw, as he says, the practical value of the instrument, and he has been most energetic and most successful in his efforts to secure its recognition by the whole civilized world.

It appears to me that, without injustice to those who had preceded him—Garcia's claim to originality in the matter of auto-laryngoscopy being obviously quite distinct and indisputable—Czermak may be considered to be the discoverer of the art of laryngoscopy *in its application to the diagnosis and treatment of disease*. He was also the first to practise the kindred art of *rhinoscopy*.

Sydney Smith, in discussing the rival claims of discoverers, has said, "That man is not the first discoverer of any art who first says the thing; but he who says it so long, and so loud, and so clearly, that he compels mankind to hear him—the man who is so deeply impressed with the importance of his discovery that he will take no denial; but, at the risk of fortune and fame, pushes through all opposition, and is determined that what he thinks he has discovered shall not perish for want of a fair trial." On grounds such as these—not of priority in time, but of persevering and successful efforts to render the method practically available—Czermak has established strong claims to be considered the *discoverer*, as he has unquestionably been the great *improver* and the great *teacher*, of the arts of laryngoscopy and rhinoscopy, in their application to the diagnosis and treatment of disease.

I propose now to describe the *method of using the laryngoscope*.

And first, as to the mode of illuminating the throat. The plan which is generally adopted is to reflect the light of the sun or of a lamp into the throat by means of a concave mirror, which is fixed on the forehead or in front of one eye of the operator.

The operator always sits opposite to the patient. When sunlight is used, the patient is placed with his back to the sun. When a lamp is employed, it is placed usually to the right side of the patient's head, and on the same level, or a little above. In using artificial light, it is unnecessary to darken the room more than may be done by simply drawing down a blind, so as to lessen the glare of daylight. Now the question arises, should the reflector be perforated and placed in front of one eye, so that we look through it into the patient's throat, or is it better placed on the forehead just above the eyes? in which case it is unnecessary to have the mirror perforated. *I believe that the best position for the reflector is above both eyes, and not in front of one*, and as this is a point of considerable importance, I must give the reasons for my belief.

With the reflector on the forehead, we avoid the discomfort and inconvenience resulting from the effort required to keep one eye applied to the opening in the mirror. We have the free and unimpeded use of both eyes, and we consequently find it much easier to direct the light into the patient's throat, to introduce the laryngeal mirror, and to practise any other manipulation that may be required, either for diagnosis or treatment. Another incidental advantage attending the position of the reflector on the forehead is, that we thus get a more extended movement of the reflector in all directions. This free movement enables us readily to change the direction of the light when we are examining our patient, and it also facilitates a very simple mode of auto-laryngoscopy, of which I shall presently have to speak. The question, then, arises, are there advantages to be gained by looking through a perforated reflector which in any degree compensate for its manifest inconveniences? I know of none, and I believe that none exist. The practice of using a perforated reflector was borrowed from the ophthalmoscope; but the conditions which attend the exploration of the interior of the eye through the small opening of the pupil are very different from those which exist when we are looking through the wide open mouth at an image of the larynx reflected from a mirror of considerable size. In the latter case there is nothing gained by looking through the centre of a perforated reflector. I have fully tested this, not only in the examination of the larynx, but also by an experiment of this kind. Place a stethoscope with the

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ear-piece downwards, on the table in front of you. Hold a laryngeal mirror obliquely over the upper end of the stethoscope, so as to reflect the interior of the tube, throwing the light of a candle on the mirror, by means of the concave reflector placed at one time on the forehead, at another in front of one eye. You will find that, as regards the facility of illuminating the interior of the tube, and seeing its image in the mirror, the position of the reflector makes not the slightest difference.

I have met with very few persons who, having tried both methods, fail to appreciate the great convenience and advantage of having the reflector on the forehead, rather than in front of one eye. Some who have become accustomed to the latter plan are unwilling to change it. Czermak not only keeps the reflector in front of the right eye, but he holds the apparatus between his teeth —a practice in which he has found very few imitators. M. Garcia[1] states with regard to the use of a perforated mirror, that he tried it in order that Drs. Sharpey and Williamson might observe his larynx while he experimented upon himself. He found, however, that this was not attended by any marked advantage. They could see the reflected image of his larynx as well by looking over the top of the mirror, as by looking through its perforated centre.

I made the same observation when looking into Czermak's throat while he was using his auto-laryngoscopic apparatus; I could see his larynx as well by the side of the reflector as through its centre. When I am examining the larynx of a patient, if I wish to make the parts visible to another, I can readily do this by turning the face of the laryngeal mirror slightly towards one side, and directing the observer to look over my shoulder at the mirror in the throat. In order to see the image of the larynx it is unnecessary that the eye should be even *near the margin of the reflector*, much less is it necessary that the eye should look through the *centre of the reflector*.

The reflector when in front of the eye, therefore, being a source of much discomfort and inconvenience, without any compensating advantage, is better placed on the forehead just above the eyes.

The *faucial or laryngeal mirror* is made of different forms—square with the angles rounded off, circular, or oval. The form of the mirror is of little consequence. I find, however, that a circular mirror irritates the back of the pharynx less than a square one; I, therefore, prefer the circular form. Silvered glass mirrors are to be preferred to those made of steel or other metal. Metallic mirrors soon lose their polish, and they quickly cool, and thus become dimmed by the breath.

The mirror is to be warmed by holding it over the lamp or by dipping it into warm water. Its temperature should be tested by bringing it in contact with the cheek or the hand of the operator. It should be warm enough to prevent its being dimmed by the patient's breath. There are two reasons for not overheating the mirror—first, the patient's mouth will be burned; and, second, the silvering of the mirror will be spoiled.

The mirror is to be held like a pen, between the thumb and two fingers, and introduced so as to slightly raise the uvula and soft palate. Care must be taken to avoid touching the tongue, and as much as possible the back of the pharynx, with the mirror, these being the most sensitive parts within the mouth. The hand of the operator may be kept steady by resting the third and fourth fingers on the chin of the patient.

I have said that we must not touch the tongue with the mirror; but how is this to be avoided? You will find that very generally, as soon as the mirror is introduced between the teeth, the tongue involuntarily rises towards the roof of the mouth, so as to come in contact with the mirror, and obstruct the view; and, in fact, the tongue is one of the most frequent and most serious impediments in the way of laryngoscopy. There are various modes of dealing with this unruly member.

In some few cases the patient has sufficient control over the tongue to hold it down by a voluntary effort, while the laryngeal mirror is being introduced. This power, however, is rarely acquired until after a considerable amount of practice, and in most instances the tongue has to be kept out of the way by some mechanical means. The plan which usually succeeds best is to hold the tip of the tongue between the thumb and the forefinger, and to draw it gently forward over the lower teeth. This may be done by the operator with his left

[1] Notice sur l'Invention du Laryngoscope, par Paulin Richard. Paris, 1861. p. 14.

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hand, or by the patient, the thumb and finger which hold the tongue being covered by a cotton glove, or by a towel or handkerchief.

In some cases a *metallic tongue depressor* may be used with advantage, or the tongue may be pressed down by the forefinger of the operator's left hand. But it will usually be found that one effect of depressing the tongue in front is to push it backwards at the base, so that it nearly or quite touches the back of the pharynx, thus intercepting the light; while another effect is to make the tongue arch upwards, so as nearly to touch the roof of the mouth. This arched position of the tongue obstructs the passage of the light to and from the larynx; often, too, it brings the tongue in contact with the mirror, and this excites nausea. For these reasons, the attempt to depress the tongue is usually less successful than its gentle traction forwards.

I have before said that the laryngeal mirror is to be introduced so as slightly to raise the uvula and soft palate. The uvula must not be allowed to project below the mirror. The end of a long uvula, hanging below the mirror, has its image reflected in the glass, and this obscures the view of the larynx. The uvula and the soft palate are the least sensitive parts with which the mirror can come in contact. The posterior wall of the pharynx is usually more sensitive, and care should be taken to disturb it as little as possible. Frequently, however, the pharynx bears the touch of the mirror as well as the uvula and soft palate.

The mirror being placed in an oblique position below the palate, we usually at once obtain a view of the larynx. A little practice will enable you to make such changes in the position of the mirror, or of the patient, or in the direction of the light, as may be required to bring the parts fully into view. It should be borne in mind that the larynx, as it appears in the mirror, is reversed; so that we get the same view as we have when, examining the larynx after death, we look at it from behind. The arytenoid cartilages are nearest to the eye; the insertion of the vocal cords into the thyroid cartilage is more distant. We also see the anterior wall of the trachea as if we were looking into the tube from behind. We see that during inspiration the glottis is a wide triangular opening of considerable size, the vocal cords being of a pearly white colour During speaking—as in pronouncing the syllable "eh"—the glottis closes, and the cords vibrate with the impulse of the expired air.

It is important to practise the introduction of the laryngeal mirror with the *left* hand as well as with the right. In applying local remedies to the larynx the patient is instructed to manipulate his own tongue, while the operator, holding the mirror with the left hand, so as to obtain a view of the larynx, uses his right hand for the introduction of the brush or other instrument.

But how does the throat bear the contact of the mirror? Does not its introduction excite retching and cough and dyspnœa, and other unpleasant sensations? These questions are often asked by those who have had no experience of laryngoscopy; but those who have experience are unanimous in declaring that, in the great majority of cases, none of these unpleasant results attend the introduction of the mirror into the fauces. In some instances, however, we meet with difficulties in the use of the instrument. I will briefly refer to some of these, and will give some hints as to the best mode of meeting them.

First, then, some persons have a propensity to throw the tongue forcibly upwards towards the roof of the mouth; and they do this with a provoking pertinacity just as the mirror is being introduced between the teeth. This position of the tongue offers a serious impediment to the introduction of the mirror, and the obstruction is greater in proportion to the size of the rebellious tongue. It is usually a result of nervousness on the part of the patient, and is sure to be made worse by any appearance of petulance in the operator. The better plan is to endeavour to reassure the patient. Sometimes the occupation of holding his own tongue has a good effect by diverting his attention, and occasionally, while he is holding the tip of his tongue, you may depress the dorsum with a spatula or with your finger. In some instances, after making one or two attempts, it is better to defer examination to a future day. After two or three sittings, there is usually less nervousness, and the tongue comes more under control.

[Dr. Watson, after hearing this lecture, told me that in the case of patients who have this tendency to arch up the tongue, and so to prevent the examination of the

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fauces, he directs them to practise by sitting in front of a looking-glass, with the mouth open. The inspection of the tongue, while they are endeavouring to acquire the power of controlling its movements, is found to be a great assistance.]

Another impediment to the examination of the larynx results from unusual sensitiveness of the fauces, so that the touch of the mirror excites contraction of the pharynx and retching. This excessive sensibility is common when the fauces are in a state of inflammatory congestion; so that, seeing the throat engorged and red, we may anticipate a difficulty in the examination of the larynx. There are two modes of lessening the sensibility of the throat in such cases. One is, to direct the patient to keep a lump of ice in his mouth for ten or fifteen minutes before the examination, and as the ice melts to swallow the cold water. Another, and I think a more effectual plan, is to put twenty drops of chloroform on a handkerchief, and let him inhale it for a minute: I have found this successful in quieting the most irritable throats, and that without rendering the patient in the least degree drowsy or uncomfortable. The bromide of potassium, when swallowed or used as a gargle, has long been supposed to have the effect of lessening the reflex sensibility of the fauces, but in the few cases in which I have tried it for this purpose it has appeared to be quite inert: Semeleder states, too, that he has not obtained the desired result from this salt.

It will usually be found that the repeated introduction of the faucial mirror, at intervals of a day or two, has the effect of lessening the sensibility of the throat, so that after a short time the most sensitive throat becomes tolerant of the mirror.

I have found that patients labouring under acute laryngitis and other organic diseases, which are attended with much suffering, usually bear the examination well, and often better than others who have but trifling ailments or none at all. The man who is threatened with suffocation will submit to any proceeding which affords him hope of relief, and the distress in his larynx is so great that he is scarcely conscious of the trifling irritation caused by the faucial mirror; so true is it that

> "Where the greater malady is fixed
> The lesser is scarce felt."

Enlargement of the tonsils may render the examination of the larynx difficult or impossible. A small mirror may be used when the enlargement is not excessive; but if the tonsils are so much enlarged as nearly to touch each other, a laryngoscopic examination is impracticable.

The epiglottis is sometimes very long, and projects obliquely downwards and backwards, so as to make it impossible to throw the light beneath it, and to get a view of the larynx. The arch of the epiglottis, too, is sometimes so contracted as to obstruct the entrance of the light.

Smeleder[1] gives as the result of his experience that in about 25 per cent. of adults, he got a perfect view of the larynx easily at the first examination; in about 5 per cent. it was impossible to see the larynx at all; in the remainder he succeeded more or less completely after repeated examinations. In children from two years of age and upwards, the proportion of failures is much greater.—*Lancet*, May 21, 1864.

(*To be continued*)

HOSPITAL NOTES AND GLEANINGS.

Left Hemiplegia, with Loss of Speech and Epileptic Convulsions — Recovery. — This case is forwarded to us as an instance of loss of speech, with hemiplegia on the left side. As a rule, when speech is lost, the hemiplegia is on the right side, and to this rule we have seen but one exception. It must be kept in mind that the following case, in degree at least, differs widely from those previously recorded by Dr. Hughlings Jackson and others as loss of speech with hemiplegia on the right. Moreover, the case is scarcely one of pure hemiplegia on the left, as the patient had at first weakness of both legs. Again, it seems that *voice*, as well as speech, was affected, so that the case altogether is rather a complicated one. Here, however, are the facts as recorded by an excellent observer, Mr. Dunnett Spanton:—

Alfred L., aged 22, single, potter; admitted into the North Staffordshire Infirmary, under Dr. Gooday, August 12, 1864.

Family History.—Father, a labourer, died at the age of 46 from "liver complaint;" mother at age of 56, from cancer. Three brothers died young, from convul-

[1] Die Laryngoskopie und ihre verwerthung für die Artzliche Praxis. Von Dr. Friedrich Semeleder. Wien, 1863.

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sions; one sister at age of 14, from fits, which she had from infancy. Three brothers and a sister living, older than Alfred L.; one rheumatic, none had fits. Paternal grandparents long-lived; maternal died early. One uncle "asthmatic."

Previous History. Healthy when a child. Since he can remember has been laid up only once, about twelve months ago with a bad foot. Has worked as a potter since the age of 15, being for a few months in the "dipping-house,"—*i. e.*, dipping the ware into the glaze containing lead. Never suffered any ill effects from it. Always lived well. During the last year has been in the habit of drinking beer to excess, getting drunk once or twice a week. Never had syphilis.

History of Illness.—On Friday, May 20th, the patient saw a young woman in a fit, and attempted to carry her out. While doing so, he says he fainted, and lost consciousness until the following Tuesday, when he felt weak and was unable to walk.

The arms were unaffected. He had frontal headache; did not lose his voice; during the fit was convulsed. Was attended by a doctor, who blistered him and leeched the temples. Kept in bed three weeks, and at the end of that time could walk with some assistance, dragging both legs. The fits recurred frequently, never with a longer interval than nine days. In a fit about five weeks after the first he lost speech entirely for an hour or two, then was able to speak in a whisper. At the same time lost sight for three days, and the eyes remained "weak" some time. He regained the use of the right leg, but the left remained paralyzed up to the time of admission. For six days before admission the fits came on very frequently, lasting usually three or four hours. The left arm became affected about a week before; headache was severe and constant, chiefly frontal. Had constipation and anorexia; no retention or incontinence of urine.

On Admission.—Height, 5 feet 6 inches; well developed; hair light; eyes gray; no marks of struma or syphilis; countenance florid, not flushed; unable to walk without assistance, dragging left leg, and unable to use left arm; right side unaffected; pupils of moderate size, equal, sensitive; sight good except when fits occur; much severe frontal headache; intellect clear during interval of the fits; occasional vertigo; no diplopia; voice scarcely audible, after a fit quite lost; memory very bad, so that sometimes he is unable to find words to express clearly his meaning, but makes himself understood by signs. Mouth slightly drawn to left side; tongue deviates a little to right side, furred, and moist; bowels confined; appetite poor; pulse slow, regular, soft, moderately full: heart sounds normal; breath sounds also; skin moist, warm; left side feels colder to the patient; no incontinence of urine.

Ordered broth diet, a blister to the nape, and white aperient mixture.

August 13. Had a fit soon after admission, lasting three hours. During the fit there was clonic spasm of the left arm and leg, the mouth drawn to left side, moving constantly; jaws quite fixed, so that he could not separate the teeth at all; insensible and speechless; pupils dilated. left larger than right. Ordered an aloetic enema.

From this time the fits recurred about once in three days, similar in character to the one described. After a fit he complained of much frontal headache; his memory was much worse. There was trismus for several hours usually, and when this passed off he was still almost speechless.

29th. Ordered iodide of potassium and sarza, and full diet.

September 3. Had several violent fits, with very little intermission, lasting several hours. During the fit both sides of the body much convulsed, the left always worse. Trismus lasted for upwards of twenty-four hours, and he was speechless for a longer period, being able afterwards to reply in a low whisper. Never said "no" for "yes," but was at times at a loss for words. Ordered to take one-sixteenth of a grain of bichloride of mercury in decoction of bark thrice daily.

9th. A seton was put in the nape. From this time the patient gradually improved; had no fit; speech slowly returned, and headache entirely ceased.

30th. Able to walk well without any dragging; quite free from pain; speech and voice better than for many weeks; all paralysis gone.

On October 8th, left the Infirmary well.

Since the above report was written, the patient has returned on account of some more fits having occurred, but comparatively

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slight. He is still under observation.—*Med. Times and Gaz*, Dec. 10, 1864.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Ligature of the Common Carotid Artery.—Wm. B. Reynolds, Surgeon 2d U. S. Sharpshooters, reports (*Boston Med. and Surg. Journ.*, Nov. 24, 1864) the following case:—

"Private J. P., 120th N. Y. Vols., was admitted to hospital, Sept. 9th, 1864, having received a gunshot wound of the face and neck, the ball entering just behind the sterno-cleido mastoideus muscle, and about one inch below the level of the thyroid cartilage, cutting in its way some fibres of the muscle, and making its exit just below the left eye. The ball, in its passage, cut an opening in the roof of the mouth, one and a half inch in length and about three-fourths of an inch in breadth. There was severe arterial hemorrhage from the anterior and posterior nares, from the wound in the roof of the mouth, and from the wound below the left eye. I proceeded immediately to plug the several passages with lint saturated with the liquid persulphate of iron, but could not by this means control the hemorrhage. Chloroform was administered, and I immediately proceeded to ligate the artery. There was nothing unusual in the mode of operation, and the artery was ligated just below the bifurcation. After the ligature was carried beneath the artery, I allowed the patient a few moments to recover from the effects of the anæsthetic, and after he had partially rallied I tied the artery. He became comatose immediately, but soon rallied on applying ar. spts. ammonia freely to the face. On rallying, his pulse was 100 per minute.

The three succeeding days his pulse was 120. The reaction was very severe, but during all this time he maintained his mental faculties. After the third day the reaction grew less, until, on the twelfth day his pulse numbered only 72. On the sixteenth day the ligature came away; the incision for securing the artery was very nearly closed, and the wounds made by the ball were doing remarkably well.

Oct. 6th, twenty-six days after the operation, he writes me that he has nearly recovered from the effects of the wound and the operation."

American Medical Association.—The Committee of the American Medical Association to which was referred, at its late Annual Meeting, the subject of "Spotted Fever—so called," earnestly solicits from members of the profession in different parts of the country information respecting the history, phenomena, and treatment of this disease as it has come under their own notice.

As it is interesting to know the geographical distribution of this disease, intelligence respecting it from physicians in distant States, and from medical officers of the army is particularly requested.

For the sake of uniformity the following questions have been prepared. Any facts not included in or suggested by them will, with the answers themselves, be gratefully appreciated and acknowledged by the Committee.

Address the Chairman of the Committee.

Dr. James J. Levick,
1109 Arch St., Philadelphia.

1. When did the "Spotted Fever—so called," appear in your neighbourhood, and how long did it prevail there?

2. What were the usual symptoms of the disease, and what unusual symptoms occurred in your practice?

3. Did it attack many individuals at the same time, and was any class of persons especially liable to it? Was it materially modified by the age, sex, or temperament of the patient?

4. What was the ordinary duration of the disease, and were relapses or second attacks common?

5. Are you in possession of any proof that this disease was communicated from one person to another?

6. What appeared to be the predisposing and what the exciting causes of the disease?

7. What complications and what sequelæ of this disease came under your notice?

8. What other diseases prevailed at or nearly the same time as spotted fever did, and have any epidemic diseases followed it?

9. What was the proportion of deaths to the whole number of persons attacked, and what was the usual manner of fatal termination?

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10. What was your mode of treating this disease?

11. What were the *post-mortem* appearances?

12. What microscopical observations were made, and what were their results?

13. Has this disease prevailed in your neighbourhood in former years?

Medical journals please copy.

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Mütter Lectures on Surgical Pathology at the College of Physicians of Philadelphia.—The College of Physicians has appointed Dr. J. H. Packard to the Mütter Lectureship on "Surgical Pathology" The first course will be delivered by that gentleman in the Hall of the College of Physicians, 13th and Locust Streets, commencing on the evening of Tuesday, January 3, 1865, and continuing on the evening of the same day of the week, until the entire course, comprising ten lectures, shall be completed. *Subject:* Inflammation—its varieties and results. Tickets for the course, each five dollars to all but Fellows of the College.

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Berkshire edical College.—At the late annual commencement the degree of M. D. was conferred on 16 candidates.

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Medical College of Ohio.—The faculty of this school has been reorganized. The chairs are occupied as follows:—

Surgery, Geo. C. Blackman, M. D.
Medicine, James Graham, M. D.
Obstetrics, M. B. Wright, M. D.
Institutes, C. G. Comegys, M. D.
Anatomy, Wm. H. Gobrecht, M. D.
Chemistry, Roberts Bartholow, M. D.
Materia Medica, Theophilus Parvin, M. D.

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Dr. Marion Sims.—We see it stated that our former contributor, Dr. Sims, who has for the past two years been residing in Paris, has received from the Emperor of the French the knighthood of the Legion of Honour, in recognition of his eminent services in surgery, and his skill and success in his particular department of practice.

FOREIGN INTELLIGENCE.

Physiological Study of Opium.—M. Bernard has made an interesting communication to the French Academy, entitled "A Physiological Study of Opium and its Principal Alkaloids." He has experimented with morphine, narceine, codeine, narcotine, papaverine, and thebaine. He has found that the three first of these only are soporific, each of them producing sleep in its own particular way; and that the three last have toxic effects. Opium, therefore, is a mixture of many substances, whose properties, as regards their action on the body, are different. Opium, indeed, probably contains other substances besides those here enumerated. M. Bernard, in his experiments, administered the alkaloids in the form of hydrochlorates, and by injection into the cellular tissue. By this means the absorption of the active principle is more regular than when introduced into the stomach, and the results obtained are more sure and trustworthy. His experiments were made on dogs, cats, rats, frogs, sparrows, etc. The effects produced were always alike, due allowance being made for the different degrees of sensibility of the animals operated on. Morphine, he found, is a more profound soporific than codeine, and narceine was intermediate in power. MM. Debout and Béhier have, it appears, lately studied the action of narceine on man, and will shortly publish the results of their researches. All the bodies extracted from opium are toxic. Thebaine is most especially so; next stands codeine. Hence it follows that physicians err in prescribing larger doses of codeine than of morphine. Two or three *centigrammes* of codeine injected into the veins of a dog, kill it rapidly. All the alkaloids of opium, with the exception of thebaine, produce convulsions.

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Elimination of Medicaments with the Perspiration.—In a late number of the *Archives Générales de Médecine*, MM. Berger and Lemaitre treat of the question of the elimination of medicaments with the perspiration. M. Lemaitre studied the matter in the wards of M. Cazenave, where he had large opportunities of observing cases in which vapour-baths and arsenic and mercury were employed. The perspiration of patients subjected to arsenical and mercurial treatment was carefully collected, and as pure as possible, for examination. Nine patients were experimented upon. Of these, seven suffering from psoriasis were treated, two of them with arsenite of potash, two with arsenite of soda, two with arsenite of

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iron, and the other with bichloride of mercury; the eighth was treated with iodide of mercury, and the ninth with iodide of potassium. The results obtained were as follows: The arsenites of potash and soda are eliminated as such; the arsenite of iron is decomposed, the iron being eliminated from the kidney; and the arsenic in an alkaline form from the skin. The protoiodide of mercury is eliminated; traces of mercury are found in the perspiration, and iodine in the saliva and urine. Bichloride of mercury is found in the sweat, and traces of it also in the urine. In a case of albuminuria these observers found no albumen in the sweat, but in a case of diabetes they found in it a large quantity of sugar.

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Transformation of Urea into Carbonate of Ammonia in the System.—Dr. PETROFF (Virchow's *Archiv*) has repeated Frerichs's observations respecting the transformation of urea into carbonate of ammonia in the system. He removed the kidneys of dogs and cats, to produce uræmia; and then examined the blood, taking all possible precautions to prevent errors. The results are—that when the function of the kidneys is suppressed, carbonate of ammonia is formed in the blood; that injections of carbonate of ammonia into the blood produce phenomena precisely similar to those of uræmia; that the degree of intensity of the symptoms produced, and their character, depend upon the quantity of ammonia contained in the blood, and upon the state in which it exists in the blood.—*British Med. Journal*, Oct. 8, 1864.

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Vaso-Motor Nerves.—The discovery of the vaso-motor nerves is of recent date. In 1852, M. Bernard showed that, after section of the cervical portion of the sympathetic, the temperature on the side injured was increased. Dr. Brown-Séquard subsequently proved that the increase of heat was the direct consequence of dilatation of the blood-vessels and of the increased flow of blood into them. Thus it was shown that certain nerves preside over the contraction of the arteries, and on this fact Dr. Brown-Séquard founded his theory of reflex paralysis. The Academy of Sciences has also lately rewarded M. Cohen for his researches into vaso-motor neuroses. M. Pontevez, in a thesis, has lately given a complete *résumé* of the whole subject. The theory of the vaso-motor nerves is, as he says, a doctrine pregnant with important results, destined to revolutionize the practice of medicine. Thus, for example, the febrile state, heretofore supposed to be a state of excitation, is by this theory shown to be a state of weakness. The hot and red skin is produced by relaxation of the bloodvessels, just as it is produced after division of the sympathetic. Paralysis of the vaso-motor nerves produces congestion, their excitation removes it, and their destruction determines suppuration. In these facts we have a physiological and modern key to the character of inflammation.—*British Med. Journal*, Sept. 17, 1864.

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Capacity of the Lungs.—M. GREANT asserts that the results concerning the capacity of the lungs, obtained through experiments on the dead body, are never correct. The pulmonary capacity depends upon the elasticity of the diaphragm and of the walls of the thorax; and this elasticity does not exist after death. He therefore determines the pulmonary capacity by the inhalation of hydrogen. Hydrogen, on the least inspiratory effort, penetrates into the smallest bronchia. By analysis of the expired gases, he obtains the capacity of the lungs.—*Brit. Med. Journal*, Oct. 22, 1864.

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Demonomania.—M. DELUEN reported the following curious case to the Academic Society of "La Loire Inférieure."

A woman was admitted into the hospice de Saint-Jacques, labouring under demonomania; she imagined that she had been got with child by the Devil; the diagnosis made was encysted dropsy of the ovary; it so happened, however, that one night she was delivered of a child which the attendants had great difficulty in preventing her from strangling. From that time, her insanity disappeared.—*Revue de Thérapeutique*, Dec. 1, 1864.

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Putrid Infection.—It is much to be desired, says M. BATAILHIE, that the theory of acute putrid infection were adopted in the interests of our hospitals, of our patients, and of the army. A great example has just been set in this way by one of our most celebrated surgeons. *L'Hôpital des Cliniques* has the worst repute for healthiness of all the Parisian hospitals. There especially are observed the severest epidemics

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of purulent infection, so that it might almost be said that this terrible affection is endemic there. Professor Nélaton, and his assistant there, M. Houel, have completely given up the surgical doctrines of the schools. They have excluded from their practice ointments, emollients, etc. They now employ *antiputrescents*, and almost solely that which is the type of them, strong spirits; and, besides this, they give their patients, after operations, eatables and drinkables. This has been their practice for fifteen months, and during this period there has not been in this hospital a single case of purulent infection, and, in fact, this hospital is now the healthiest in France; and all this without moving a stone, taking out a nail, or spending a *sou*.

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Enucleation of Eyes.—We cannot but congratulate the profession upon the numerous ophthalmological critics, reviews, &c., which have lately sprung into life. Ophthalmic surgery and diseases of the eye have been, during the few past years, studied with remarkable industry; and, as every one knows, very great differences in opinion and in practice have been the not unnatural result. A critical study of the new practices and proposals of the day will necessarily lead to the separating of the wheat from the chaff; and will, no doubt, one day bring us to something nearer settled rules of practice than we have arrived at at present.

The subject of what, in modern language, is called the Enucleation of the Eye is one, amongst others, which would, we cannot but think, be the better for a little canvassing. This operation, once so rarely performed, and still so rarely performed by many eye-surgeons, appears in the practice of some of our modern ophthalmological authorities, an affair of what we may call every day occurrence. Either in connection with, or coincidently with, or as a mere sequence of, iridectomy, has enucleation of eye become, in some hands, quite a common operation.

We, of course, offer no opinion as to the value of the operation in itself, or as to its desirability or rather necessity as a daily operation; but we cannot but note this very important fact, plain to every one; viz., that the practice of some eye-surgeons in this respect is in direct opposition to, and, therefore, in some sense a condemnation of, the practice of other eye-surgeons. It cannot, assuredly, be a matter of indifference to the patient that he should, or should not, have his eye enucleated. The operation must be good or bad for him, a desirable thing or a thing not at all to be desired. But as the practice at present stands, there appears to be no rule to guide the hand of the eye-surgeon; so that, in fact, the enucleation (or otherwise) of the eye will, in a given case, depend entirely upon the school of surgery into whose hands the patient may haply fall. But we must all acknowledge this to be a misfortune; and would all gladly see unity of practice exist upon the point. What, for example, are we to think, and what will the public say, when they meet with facts like the following?

In a translation of Zander on the Ophthalmoscope, the translator, Mr. R. B. Carter, incidentally tells us that he has enucleated at least a hundred eyes. His words are: "I have performed the operation" (enucleation of the eyeball) "more than one hundred times"

Then, on the other side, and as a contrast to this practice, we are informed that not so many as one hundred eyes have been enucleated in the Westminster Eye Infirmary since its foundation.

One single country surgeon, with, of course, a limited experience, has enucleated more eyes than have been enucleated by some eight metropolitan eye-surgeons, at a London eye-hospital, during something like half-a-century of practice!

We are not, let it be understood, venturing to criticize the practice of the Westminster Eye Hospital, or the practice of Mr. R. B. Carter; nor have we any opinion to offer on the point of practice. Our duty and intention are simply, for the sake of science and humanity, to mark the discrepancy in practice, and to call upon those who thus differ on such a very important point to subject their methods to a severe criticism; and so out of opposition to bring unity. As we started off with saying, we now conclude with saying one practice must condemn the other. Both cannot be right; and, therefore, in the meantime, humanity suffers and eye-surgery requires enlightenment.—*British Med. Jl.*, Nov. 5, 1864.

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Treatment of certain Surgical Cases in Tents.—Dr. E. Rose has recently given an account of the experiment that has been

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made at the Bethanian Hospital, Berlin, of treating certain surgical cases in tents freely exposed to the air erected in the garden of the establishment. His present report only relates to forty-eight patients so treated between May 25, and September 22, 1863. Its conclusions are highly favourable; for, notwithstanding that there was injudicious overcrowding, no case of pyæmia, gangrene, or tetanus occurred, while there were only a few cases of slight erysipelas. It is not, in fact, the overcrowding of patients and the generation of purulent miasm which give rise to the production of epidemics of pyæmia, but the stagnation of the air and consequent purulent decomposition that ensues. Not only did this evacuation of the bad surgical cases into the tents act beneficially upon themselves, but also upon the condition of the other patients in the hospital—pyæmia, which in former years had been very prevalent, then ceasing to appear in the wards. What sea-air is to the inhabitants of towns, the tent is to the inmates of hospital wards. Patients with suppurative discharges, whose lost appetites no tonic would revive while in the wards, in the tents became so inordinately hungry that their dietary had speedily to be augmented. The general conclusion of the author is that, in spite of some unfavourable weather, and the not very good climate of Berlin, no ill effects resulted, while the influence upon the general health of the patients was most beneficial.—*Med. Times and Gaz.*, Dec. 3, 1864.

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Propagation of Puerperal Fever by Accoucheurs.—M. Grisar has recently brought this subject before the Brussels Academy of Medicine. The following is M. G.'s personal experience. In December, 1842, he delivered a woman with the forceps, who died of puerperal fever on the second day; and between then and the 19th of the following March, 16 out of 64 women delivered by him were attacked by puerperal fever, 11 of the number dying. As he found the disease did not prevail in the practices of other physicians, he came to the conclusion that he had been the means of communicating the contagious principle of the disease, and therefore took every possible precaution. Until the end of 1862, therefore, for twenty years, he did not meet with another case; but at the end of that year he had a fatal one; and between December 5th and January 26th following, of 9 women delivered by him 8 became the subjects of the disease, and of these 4 died. He had taken every precaution as respects ablutions, clothing, etc., but it was not until after he had suspended practice for a month that the disease ceased to appear among his patients. M. Guerin, commenting upon the above facts, observes that Chomel always called in Baudelocque to his wealthy patients, who unattached to any maternity, he had found to be the only accoucheur of his day in whose practice puerperal fever did not appear; and more than one practitioner, renowned for his knowledge and talent, has acquired among the public a terrible reputation for the calamities which attended his presence. M. Guerin adds that he himself, as well as various other practitioners, have, during the prevalence of epidemics of puerperal fever, experienced symptoms which could only be explained by the presence of a poisonous miasm, and which may doubtless be transported, notwithstanding ablution, change of clothing, etc. Such persons suffer from general uneasiness, fetid breath, eructations of a peculiar odour, and somewhat loose and strong smelling stools. They should observe the greatest cleanliness, freely breathe the fresh air, and repeatedly purge themselves. When the fever occurs in their practice they should make it a solemn duty to abstain for a while from attending other cases.—*Med. Times and Gaz.*, Dec. 10, 1864.

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Hospital Hygiene.—MM. Broca and Gosselin having been placed on a committee which gave its approbation to the projected rebuilding of the Hôtel-Dieu, have become the defenders of the project in the Society of Surgery. The latter able surgeon especially stated that he could find nothing to blame in it, except the mode of distributing the buildings. He approved of the large number of beds intended to be provided, and strongly objected to removing the hospitals out of Paris, as highly inconvenient to the patients, their friends, and the medical attendants, and the students. Moreover, he would not admit that the superiority of rural hospitals, although so generally assumed, had been rigorously demonstrated. It is true that country air is purer and more wholesome than that of towns; but it is only an assumption that persons who have always inhabited Paris

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would be cured in greater numbers or with more rapidity by being transferred to rural hospitals. It is true that the great operations performed upon the peasantry in small country hospitals are attended with wonderful success; but we have no proof whatever that a like success would be accomplished were Parisians the subjects. At all events, no one will venture to say that epidemic or endemic diseases, as typhoid fever, for example, are attended with less fatality in small country hospitals than in those of Paris. After all, however, notwithstanding the questionable soundness of some of the above opinions, M. Gosselin is not so much at variance with his colleagues as might at first sight be supposed, for he believes that the great thing to secure in a hospital is effectual ventilation. Since he has adopted at La Pitié the "English system" of natural and permanent ventilation, his success with his operations has been surprising, while hospital gangrene, pyæmia and refusal to heal on the part of wounds are unknown in his wards. It is because he believes that in the new Hôtel-Dieu the patients will be distributed in wards containing only a small number of beds, and that each individual will be supplied with from 60 to 65 cubic metres of air, that he gives his support to the plans which have been proposed.

Baron Larrey, in an able discourse, summed up the results of the discussion, and confirmed the importance of many of the conclusions arrived at by the weight of his great experience. The evils of overcrowding he illustrated by the experience of the Crimean war, evils which were entirely obviated during the Italian war through proper sanitary arrangements being put into force. His inspection of the hospitals through entire France has convinced him of the superiority of those which are located beyond the walls of towns over those placed in their midst, and the relative superiority of small hospitals has also been fully proved by means of the small military hospitals which are supplementary to Val-de-Grâce.—*Ibid.*

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Endurance of Human Life.—A remarkable instance of the power of supporting hunger has recently occurred at Horsham, near Melbourne, in Australia. Two boys, aged nine and five, and a girl of seven, being sent into the "bush" to gather broom, lost their way, and after a long search, in which the natives were employed, were discovered sleeping on a clump of broom. They had been eight days and nine nights without food, and with only one drink of water.—*Lancet*, Dec. 10, 1864.

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Continued Fever in London.—Continued fever now prevails to a considerable degree, and is on the increase amongst the population of London. A writer in the *Times* says:—

"Ever since the end of 1861 typhus fever has been epidemic in London to an unusual degree. For the three years preceding 1862, the number of patients admitted in this hospital averaged 543 only per annum, while the number admitted in 1862 and 1863 averaged 2402 per annum. Large as this number is, it has been exceeded by the admissions of the present year. From the 1st of January to the 30th of November, 1864, they number 3247. During the month of November alone no less than 345 patients were admitted—a larger number than was ever admitted during the same period at any time since the establishment of the hospital in 1802.

"Although fever is chiefly confined to districts inhabited by the poor, the hospital has not been without its use to localities where the wealthier classes reside, as may be inferred from the fact that 227 domestic servants and 59 shopmen and warehousemen have been removed during the year from private houses and mercantile establishments to the wards of this hospital."—*Med. Times and Gaz.*, Dec. 10th, 1864.

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Typhus in Liverpool.—Typhus has become epidemic in Liverpool. At the present time the disease is more prevalent there than it has been at any period since the great outbreak of 1847. Rarely, if ever, is the town entirely free from the malady; but in the autumn of 1862 cases of the disease became more numerous, contemporaneously with the appearance of typhus in Preston and other towns in the cotton manufacturing districts of Lancashire. Since then there has been a gradual augmentation of the disorder, and it has now assumed the proportions of a grave epidemic. Taking the number of patients under treatment at the Fever Hospital as a criterion of the progress of the outbreak, it would appear that between Sept. 1862 and Sept. 1864, the

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beds occupied ranged from 60 to 200. Since the latter month the number of patients in the hospital from week to week was as follows:—

39th	week	of 1864,	207	patients
40th	"	"	262	"
41st	"	"	288	"
42d	"	"	316	"
43d	"	"	345	"
44th	"	"	371	"
45th	"	"	346	"
46th	"	"	336	"
47th	"	"	321	"
48th	"	"	376	"

There is little doubt that the majority of these cases suffered from true typhus Maculæ and petechiæ were common; but there was less cerebro-spinal disturbance than is usually observed. The number of deaths during the present year has been below the rate of the London Fever Hospital during a period of ten years.—*Lancet*, Dec. 3, 1864.

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Establishment for Propagating Cowpox amongst Heifers.—Our readers will probably be interested and surprised to hear that there is an establishment (now fifty years of age) at Naples, where the cowpox is propagated amongst heifers.

The establishment is due to M. Galbiati. The heifer is brought to the door of those who are to be vaccinated. The conductor snips off a pustule with scissors, and presents it in a pair of forceps to the doctor who vaccinates. Vacciniferous cows, M. Palaschiano told the Lyons Congress, are seen going about the streets of Naples just like milking cows. There is a vaccine establishment at Naples; but its operations are confined almost wholly to the poorer classes. Ferdinand II., who supported this establishment, nevertheless had his children vaccinated from the cow; and so also do all those who can afford to pay five *francs* for the use of the vacciniferous animal. Since the annexation of Naples to Italy, this custom has spread; and, in fact, the cowpox is now generally used in the army and in schools. The propagation of the cowpox has during the fifty years been kept up from cow to cow. Sometimes it has been renewed by matter obtained from England. M. Galbiati, it may be added, has found the affair answer as a speculation. Besides the profit arising from the supply of matter he has never found any difficulty in the sale of his animals as articles of food.—*Brit. Med. Jour.*, Nov. 12, 1864.

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Liquefaction of Protoxide of Nitrogen.—One of the most interesting objects at a recent *soirée* at the Paris Observatory consisted in the exhibition of the liquefaction of laughing gas, the protoxide of nitrogen, by M. Bianchi. This took place at zero centigrade under a pressure of thirty atmospheres, the fluid issuing in a small jet from a strong metallic reservoir. Received in a glass tube, it retained its liquid condition by reason of the depression of temperature produced by evaporation, so that mercury being introduced solidified, and could be hammered like lead. Simultaneously, a body in the state of ignition, plunged into the atmosphere of the liquid, in which the mercury froze, burnt with a brilliant light. On pouring the protoxide into a small platinum capsule heated to redness, the liquid was found to retain all its properties while assuming the spheroidal state, and was still able to freeze mercury contained in little glass ampullæ. Finally, the liquid protoxide became solidified under the recipient of an air-pump, the temperature being reduced to 120° below zero, Centigrade—the most intense cold yet obtained.

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Ozone Tests and Readings.—Dr. Allnatt says: "I conclude that bibulous paper, saturated with a solution of iodide of potassium and starch or thin arrowroot, affords the most effective tests we possess. The formula of its preparation is as follows: Take of pure white starch 1 ounce, iodide of potassium 3 drachms; mix in a marble mortar, and add gradually 6 ounces of boiling water. The papers to be saturated with the mixture while hot, carefully dried out of contact with the external air, and preserved in close tin boxes." Mr. Lowe remarks: "Assuming that we have adopted the best tests and the most approved method of using those tests, it will be requisite to correct the readings for the velocity of air at the time, for the height of the barometer, for temperature, and for the hygrometrical condition of the atmosphere. It must be borne in mind that if in a given time 1,000 cubic feet of air passing through the ozone-box gives a register of 4, 2,000 feet passing through in the same time will give one of

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double that amount. Moisture can also increase or diminish the action, a very dry air or a perfectly saturated atmosphere showing a *minimum*. The lower the barometer descends, the more ozone is shown upon the tests. In very hot or very cold weather ozone is also at a *minimum*. With a west there is much more ozone than with an east wind. The *maximum* amount of ozone will occur with a moderately moist atmosphere, a temperature between 50° and 60°, a barometrical pressure under 29 inches, and a gale occurring at the same time. Before the actual amount of ozone can be ascertained, certain corrections must be applied, and until uniformity is adopted the observations cannot be made comparable. Under these circumstances, we can do little more than record much or little ozone.—*British Med. Journal*, Oct. 22, 1864.

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Mortality of Black Troops in the British Service.—There are some thousands of black troops in the service of the crown. In Ceylon the mortality is much lower among the native than among the white troops; but in the West Indies, where also there are both black and white, it is very decidedly otherwise. In Jamaica the mortality among the black troops was 30.25 per 1 000 of mean strength; among the white troops only 12.81. Mr. O'Flaherty, the principal medical officer in that command, remarks that the black soldier, to outward view, is apparently strong and muscular, but when sick he has comparatively little power of resisting or sustaining disease, and fatal cases of consumption are seldom protracted to the advanced stages commonly observed among European soldiers. It must be borne in mind that the black recruit undergoes a very trying change, on enlisting, from almost complete idleness, and a semi-savage state of existence, to a life of order, regularity, and continued exertion in learning his work during the first two years; the white corps brings no soldiers in the recruit stage. In Jamaica, also, the black troops have much heavier duty than the white, and have been provided with only two meals a day, at 8 A. M. and at noon, leaving them for nearly twenty hours without any regularly provided sustenance; but the medical officer had recommended the addition of an evening meal. The liability of the black troops to consumption is remarkable also in the returns for West Africa. At the Gambia the deaths from consumption and diseases of the lungs in the four years 1859-62 were as many as 17.64 per 1,000 *per annum*. The mortality from all causes in the year 1862 exceeded 28 per 1,000 at Sierra Leone, the Gold Coast, and Lagos; there are no European troops there to allow of a comparison of mortality. —*British Med. Journal*, Oct. 29, 1864.

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Instruction of the Deaf and Dumb.—The instruction of the deaf and dumb in Paris appears to have made great progress.

"In 1853," says M. Bouvier, "the Academy of Medicine, consulted as to the mode of instruction which should be employed for the deaf and dumb, replied 'that experience had not decided whether education by mimicry or by speech was the best.' During the last eleven years, however, much light has been thrown on the question. Dr. Blanchet, during eighteen or twenty years, has followed a system which was the dream of Itard, and which tends, in the future, to transform the deaf and dumb into deaf only, removing the mutism which accompanies the deafness. For this purpose, all that is necessary is to bring up and educate the deaf and dumb in constant intercourse with persons who speak. This plan is now actually in practice in the Department of the Seine. There is not at the present time a single deaf and dumb child of poor parents who cannot receive in the communal schools of Paris the primary instruction which other children receive, and acquire at the same time a certain degree of the faculty of articulate speech. At Montpellier, Lyons, and Strasbourg similar attempts have also been successfully made. As a guide to teachers, the works of MM. Blanchet and Valade-Gabel have received the sanction of a ministerial commission."—*British Med. Journal*, Oct. 29, 1864.

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Homœopathic Globules.—Two children have been brought up at the Wisbech Police Court, charged with stealing several bottles of homœopathic medicine from the shop of Mr. Finnell. It was said in court that they had eaten the contents of more than 20 bottles without "being either better or worse for it." The children were dismissed with a reprimand.—*Lancet*, Dec. 10, 1864.

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CLINICS.

CLINICAL LECTURES.

Two Lectures on the Laryngoscope. Delivered at the Royal College of Physicians. By George Johnson, M. D., Prof. of Medicine in King's College, &c. &c. (Lecture I. Concluded from p. 6.)

Autolaryngoscopy.—One of the most useful means of acquiring skill and confidence in the examination of the larynx is the practice of autolaryngoscopy—that is, the examination of one's own larynx. Various methods of autolaryngoscopy have been proposed and practised. The simplest and most satisfactory plan is one which is very easy of execution, and which requires no special apparatus. The concave reflector on the forehead, and the laryngeal mirror which is used in the examination of others, with a common looking-glass and a lamp, constitute the whole of the apparatus. The method of operating is this. Sitting at a table of a convenient height, I place a looking glass at a distance of about eighteen inches in front of me, and a moderator or a gas lamp on one side of the glass, but two or three inches further back, so that the light may not pass directly from the lamp to the mirror. Now, with the reflector on my forehead, I direct the light, as it were, into the open mouth of my own image in the looking-glass; then, introducing the laryngeal mirror into my mouth, I see the reflection of my larynx and trachea in the glass before me, and any one looking over my head or shoulder can see the image at the same time. This method therefore serves for autolaryngoscopy and for demonstration; in other words, the experimenter can, by this means, see his own larynx and show it to others.

This method certainly possesses some advantages over that employed by Czermak. In the first place, Czermak's plan requires a special apparatus, which is too complicated and costly to allow of its coming into general use. Although I possess Czermak's in-

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strument for autolaryngoscopy, I have quite ceased to use it, because I find the other plan easier and more satisfactory. I find, for instance, while I am holding the laryngeal mirror with my right hand, and changing the position of my head so as to obtain different views of the larynx, I can with the greatest readiness make any required change in the direction of the light by adjusting the frontal reflector with my left hand. This adjustment of the light cannot so readily be made with Czermak's apparatus on account of the distance at which the reflector is fixed on a brass stem opposite the experimenter.

For beginners in the art of laryngoscopy this method affords a very useful means of training and practice. One of the chief difficulties at first is to keep a steady light in the patient's mouth while the laryngeal mirror is being introduced. Now the student, after arranging his looking-glass and his lamp, may direct the light from the frontal reflector into his own open mouth in the looking-glass. This process differs scarcely at all from that which he will have to practise on his patients. Then, having learned to keep the light steady, he may practise the introduction of the faucial mirror, and he will soon see the interior of his own larynx and trachea. I have seen several of my medical friends and pupils succeed in doing all this within less than half an hour of their first attempt.

It is important to observe that in practising this method of autolaryngoscopy both eyes may be protected from the glare of the lamp. The lamp is most constantly placed by the side of the glass to the left of the operator. The right eye is then shaded by the lower margin of the reflector on the forehead, and the left eye may readily be shaded by one or two fingers of the left hand placed at the edge of the reflector. The fingers thus placed serve at once as a shade for the left eye, and a means of moving the reflector when the direction of the light has to be changed. If the experimenter desire to show his larynx to several persons at once, he can readily do this by having the mirror in front of him of small size, about three inches square, and fixed at a convenient height; the small flat mirror belonging to Czermak's autolaryngoscopic apparatus may be used for this purpose. Thus, while two or three persons standing behind him can see the reflection of his larynx in the glass, two or three others standing in front of him, and looking over the top and by the sides of the glass into his mouth, may see the direct reflection of the larynx from the faucial mirror.

In the practice of laryngoscopy, whether in the examination of one's own larynx or that of others, it is of primary importance that the operator should have the power of readily changing the direction of the light, so as at once to adapt it to the varying position of the body, which is often required for the thorough exploration of the larynx. A feebler light, which can readily be reflected in any required direction, is of more practical value in laryngoscopy than a stronger light which is fixed.

Some laryngoscopists on the Continent, and Dr. Walker of Petersborough, do not use the reflector for the purpose of lighting the throat, but in place of it they get a direct illumination of the fauces by means of a concentrated fixed light. A globular bottle of water in front of a lamp is used as a powerful condensing lens. In this way, certainly, a very bright light is obtained; but the objections to this mode of illumination are—1st, that the apparatus is clumsy, and cannot be carried about; and, 2d, the chief objection is that the direction of the light cannot be readily and instantaneously made to follow the movements of the patient's head. The fact of the light moving with the movements of the operator, which some consider an objection to the method of illuminating the throat by means of the reflector on the forehead, does, in fact, constitute one of its chief advantages.

With regard to the source of the light, I find it not difficult to see and to demonstrate my own larynx, as well as to examine the larynx of another, by the light of an ordinary candle; but a bright light renders the examination much easier and more satisfactory. The best artificial light is a moderator lamp, or an argand gas burner. The light may be much intensified by placing a metallic reflector behind the lamp, and a bull's-eye condenser at the proper focal distance in front, the flat side of the lens being next the lamp. I find that with a single bull's-eye condenser I get a better light than with Tobold's condenser, which consists of three lenses in a brass tube, and which is a more cumbersome as well as a more costly apparatus.

All observers agree in opinion that the light of the sun, when it can be obtained, is

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the best means of illuminating the throat. The patient sits with his back to the sun, and the operator directs the light into the throat by means of the reflector. For this purpose the reflector need not be concave: a flat surface will give sufficient light. In using a concave reflector with sunlight, you must be careful not to burn the throat by concentrating the rays into a focus. *Solar* caustic, be it remembered, may be made even more powerful than *lunar* caustic. [Since this lecture was given I have found that the best mode of using sunlight in laryngoscopy is to place a looking-glass in such a position that it shall deflect the sun's rays on the frontal reflector, but leave the eyes of the operator in the shade. In this way we avoid the serious inconvenience which results from exposing the eyes to the direct rays of the sun. Both the patient and the operator are in the shade, a column of light being turned upon the frontal reflector by the looking-glass.] With sunlight it is not absolutely *necessary* to use the frontal reflector. The patient may face the sun, so that the rays fall directly upon the laryngeal mirror. But here, again, the advantage of the reflector consists in the facility with which it enables you in a moment to change the direction of the light.

The reflector on the forehead is a very useful means of lighting the throat for the purpose of examining the tonsils, palate, and pharynx. Placing a lamp or a candle by the side of the patient, or using sunlight when it is available, the operator, with the reflector on his forehead, throws the light into the throat, and has both his hands free to depress the tongue and to apply caustic or other local remedies. In cases of diphtheria and scarlatina, by this method of illumination a thorough examination of the throat can be made in a much shorter time than by the ordinary method, and without the necessity of raising the patient's head from the pillow. The operator in this way runs less risk of infection from inhaling the patient's breath, or from the morbid secretions being coughed into his face.

In the presence of a learned assembly such as I have now the honour to address, it is scarcely necessary to assert, that if in the laryngoscope we have an important aid in the diagnosis of laryngeal disease, such aid is by no means superfluous or uncalled for. The experience of every practitioner will enable him to recall cases in which there has existed the most painful doubt as to the nature of disease within the larynx. Mr. Porter, writing in the year 1837, says, "How is a man of experience, when he meets with a case of laryngeal disease, to know whether it is caused by an œdematous condition of the sub-mucous tissue—by a chronic thickening of the mucous membrane itself—by laryngeal ulceration—by destruction of the cartilages—by the presence of abscess or tumour, or by another of those numerous affections which dissection so frequently shows us to be the occasion of death?" And he suggests that "perhaps by reason of the difficulty of the subject, it will be long before we possess the same accuracy of information with reference to affections of the windpipe that has been attained in other diseases." What, now, has been the effect of that simple contrivance, the laryngeal mirror? May it not be said without exaggeration, that it has rendered the diagnosis of the diseases of the larynx more simple and more certain than the diagnosis of the disease of any other internal organ? In fact the larynx has ceased to be an internal organ, in the sense of being hidden from view, for it has been brought within the range of vision. And the answer to Mr. Porter's question is simply this, that the man of experience has now only to *look* into the larynx, and he will *see* what is the form of disease with which he has to deal.

In my next lecture I propose to give some illustrations of the valuable aid which the laryngoscope is capable of affording in both the diagnosis and the treatment of disease. During the few minutes that remain to-day, I purpose to advert very briefly to the subject of rhinoscopy.

Rhinoscopy.—Czermak, in his first publication on the laryngoscope, pointed out that the same method of examination was applicable to the inspection of the posterior surface of the soft palate, the posterior openings of the nasal fossæ, and the superior parts of the pharynx.

In the practice of rhinoscopy the patient should sit erect, without throwing the head back, while the light is thrown into the mouth by the frontal reflector. The tongue is to be kept down by means of a metallic depressor, which may be held either by the operator or by the patient. A small mirror is required, and it is better made of glass than of metal, on account of the rapidity

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with which a metallic mirror cools and condenses vapour on its surface. I have two circular mirrors, which I find very convenient for rhinoscopy, one the size of a three-penny piece, the other the size of a sixpence.

When you are about to introduce the mirror, the patient should be directed to breathe quietly. A deep inspiration draws the uvula and soft palate upwards and backwards, and so interferes with the examination. The mirror is to be introduced by the side of the uvula, beneath the palate, with its surface directed upwards and forwards. The facility with which the examination can be made depends mainly upon the space which exists between the palate and the posterior wall of the pharynx. When the interval is a moderately wide one, the mirror can be introduced without touching the uvula or palate, and the posterior openings of the nasal fossæ, the turbinated bones, the opening of the Eustachian tube, the septum narium, the roof of the pharynx—all these parts may be distinctly seen.

In some cases the examination is facilitated by drawing the uvula and palate forwards by means of a blunt hook; but this is better avoided if possible, for it is always attended with much discomfort, and frequently the contact of the hook excites contraction of the palate, which is then drawn upwards and backwards so as completely to obstruct the view. The most successful rhinoscopic examinations that I have made have been accomplished without touching the uvula and soft palate. Very valuable information may sometimes be obtained by rhinoscopy.

Last year I was consulted by a gentleman, twenty-four years of age, who had complete obstruction of the right nostril. It had commenced two years ago, after a severe cold; and it had steadily increased until, at the end of about a year, it was so complete that he was unable by any effort either to inspire or to expel air through the right nostril. The left nostril remained pervious, but in consequence of the obstruction on the right side the patient habitually kept his mouth open, respiration being impeded when the mouth was shut; and the voice had somewhat of a nasal character. Examination of the nostril in front discovered no obstruction, nor was any abnormal appearance visible on examination of the palate and pharynx in the ordinary way through the open mouth.

He had a throat favourable for rhinoscopy: a small uvula, with the soft palate at some distance from the back of the pharynx, so that the mirror could be introduced without disturbing these parts. The left nasal fossa was quite normal, but the right was seen to be completely obstructed by a tumour, apparently of globular form, having a slightly granular surface, and a yellowish-green colour. It touched the floor and septum of the nose; and externally it pressed upon and concealed the turbinated bones. I could touch the tumour with a bent probe introduced behind the palate. I now asked my friend and colleague, Mr. John Wood, to see the patient with me, and to devise a plan for removing the tumour. He introduced a pair of slender curved polypus forceps through the anterior opening of the nostril, grasped the tumour, and as he was drawing it forward there was a sudden rush of a glairy fluid, like white of egg, and some membranous shreds came away between the blades of the forceps. The patient felt immediately that the obstruction was gone. On rhinoscopic examination the tumour had disappeared; the turbinated bones were plainly visible; and on the under side of the middle turbinated bone there was an abraded surface, from which, apparently, the tumour had been torn. The tumour had evidently been a globular cyst containing fluid. On the second day after the operation a portion of the cyst-wall came away. This I have preserved. It is smooth on its inner concave surface, but uneven on its outer surface, by which apparently it had been attached to the mucous membrane. During the first few days after the operation the abraded surface of the mucous membrane was covered by a purulent secretion: this quickly healed. The patient has lost all sense of obstruction in the nostril; he can breathe comfortably with the mouth closed; and the voice has recovered its natural tone.

The practical value of rhinoscopy in this case can scarcely be called in question. It is doubtful whether by any other mode of examination the position and nature of the tumour could have been determined with sufficient certainty to warrant an operation for its removal. I was relating this case to a friend, who remarked that my patient had more reason to congratulate himself than one about whom he was consulted. One nostril was obstructed, and it was supposed that a polypus was the cause of obstruction. A surgeon had made an unsuc-

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cessful attempt to remove the supposed polypus by the forceps: this caused much suffering; and it was at last discovered that the obstruction was due to thickening of the turbinated bones.

Czermak, in the last German edition of his work,* gives a good illustration of the value of rhinoscopy in correcting an erroneous diagnosis. A young man deaf on the left side was found to have a tumour at the back of the nostril, which conveyed to the finger the impression of a polypus. An operation was contemplated, but a rhinoscopic examination discovered a tapering swelling of the mucous membrane, nearly as thick as the finger, surrounding the orifice of the left Eustachian tube; also great swelling of the middle and inferior turbinated bones; but no polypus, nor any tumour which an operation could have removed or lessened.—*Lancet*, May 28th, 1864.

HOSPITAL NOTES AND GLEANINGS.

Operation for the Relief of Constant and Severe Pain in a Case of Acute Mammary Scirrhus. — Continuous, agonizing, and wearing-out pain, that resists all attempts to produce relief by the most powerful anodynes, and which causes suffering that is most distressing to witness, justifies the adoption of almost any means to afford relief, be it even for a short time only. A case of this kind is now in St. Bartholomew's Hospital—a woman fifty-six years of age, who was admitted on the 6th of October with cancer of the right breast of six months' duration; but so rapid had been its progress, especially during the last few weeks, that it involved the entire gland, and presented a large and prominent mass of the acute form of the disease, with projecting tubercles, one of which on the left side was on the eve of bursting; and so continuous was the pain, that the patient anxiously solicited its removal. Mr. Lawrence remarked that, setting aside altogether the question whether the case was favourable for operation or not, he was determined to accede to the patient's request, and remove the affected breast solely to relieve her from suffering. The slightest examination of the breast induced pain; the countenance expressed anxiety, nervousness, and wretchedness, from sleepless nights and equally sleepless days; there was no desire for food, and emaciation was beginning to tell its tale. Such circumstances as these demand active surgical measures, not only to prolong life, but to render it free from suffering. Accordingly, on the 21st ultimo, chloroform having been administered by Mr. Lloyd, Mr. Lawrence proceeded to remove the mass of disease, which involved a portion of the integuments. There was not so much hemorrhage as might have been expected, considering the acute character of the malady and its inflamed external appearance; nevertheless a large number of small vessels required ligature, which rendered the operation tedious and prolonged—in part due to the time taken by the operator in tying most of the vessels. During the operation, and especially at the early part of it, the subclavian artery was compressed with the finger, with the object of diminishing the free hemorrhage that was expected. The wound was closed, and the patient sent to bed.

Oct. 29th. The result of the removal of the diseased breast has been most gratifying, for pain has wholly disappeared, comfortable sleep has been gained, the appetite has returned, and the patient's spirits and hopes have so improved that she can scarcely be recognized as the same person. It may be asserted that she has uninterruptedly progressed without an unfavourable symptom. The wound is rapidly filling up, the discharge is healthy, and there is fair promise of an early cicatrization.

When we again saw her, two or three days back, all the favourable conditions just mentioned were still present; and an immunity from the disease will be experienced, it is to be hoped, for some time to come.—*Lancet*, Nov. 5, 1864.

Compound Fracture of the Skull without Cerebral Symptoms—recovery. — It is interesting to find a man with an injury of this kind in whom no special symptoms appeared, and it is satisfactory to know that a patient may recover completely in little more than a fortnight from an accident which is frequently so serious in its results.

The chief danger early in such a case would be acute arachnitis, and this the patient escaped. But we must keep carefully in mind that patients not unfrequently

* Der Kehlkopfspiegel und seine verwthung, für Physiologie und Medizin, pp. 127–8. Leipzig, 1863.

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come to us, for epilepsy or epileptiform convulsions giving just such a history as the following of past injury to the head. And as, of course, the patient comes under the care of the surgeon for the injury and of the physician for the epilepsy, the clinical history of cases of epilepsy from injury to the head is very incomplete. It is very important to watch the future progress of cases of even slight injury to the head after recovery. Besides the occurrence of epilepsy after an interval of apparent health, we sometimes have abscess of the brain.

John S., aged 27, a table-knife blade grinder, came to the out-patients' room of the Sheffield General Infirmary at noon on November 6, 1863. He stated that two days before, when slightly intoxicated, he received a blow on the head inflicted by a comrade with a stool. He was insensible for a few moments, but quickly recovered, and went to a druggist's with a wound on the forehead, which bled freely. The wound was dressed; but the bleeding continued more or less until the patient came to the Infirmary. On examination there was found a contused wound of two inches in length situated in the upper part of the right frontal region, with a fissure of the corresponding part of the skull around which the periosteum was torn off. There was no depression of bone. Two vessels bled freely, which were tied by Mr. Hall, who saw him at the time. The patient was a man of repulsive countenance and ill formed, but intelligent. He was pale from loss of blood; quite sensible; pupils both large and rather inactive; pulse moderately full and of natural frequency. He said he felt very well; and refused to be made an in-patient. Some sutures were put in the wound and dry lint over it. He had a dose of aperient medicine, and was ordered to come again the next day.

November 7.—Slept well; says he feels well; has no headache; wound looks quiet.

9th.—Going on well; wound suppurating freely; says he feels well; pupils normal; pulse 70, regular; has no headache. The wound was dressed with lint and strapping.

14th.—The patient has been to the Surgery every other day to have the wound dressed; it is now nearly healed by second intention; general health good.

21st.—Wound quite healed; patient discharged cured.—*Med. Times and Gaz.*, Dec. 24, 1864.

Complete Dislocation of the Astragalus Forwards and Outwards; Excision of the Bone.—During the first six weeks of the current session several of the larger operations have been performed at the Charing-Cross Hospital, including the removal of the superior maxilla, two cases of Pirogoff's amputation, and one of Chopart's amputation of the forearm and of the leg, and excision of the head of the humerus and of the astragalus. From amongst these we select the following case (the notes of which were furnished by Mr. W. Travers, resident medical officer) of dislocation of the astragalus, wherein it was found necessary to excise the bone. The symptoms are very accurately described, and show that not only was the bone displaced forwards and outwards, but at the same time it was twisted on its long axis, so that the dislocation was complete. Reduction under such circumstances was found to be impracticable, and it was deemed the more prudent course to excise it, in carrying out which measure a part of the bone was found in a comminuted condition.

W. P——, aged forty, a tailor, residing at Holloway, was admitted on the night of Sunday, Oct. 30th, with a dislocation of the astragalus of the right foot forwards and outwards. He says that some two hours previous, whilst walking in the fields in his neighbourhood, it being very dark, he stumbled into a dry ditch about two feet in depth, his foot twisting under him.

When admitted, the ankle appeared much distorted, the foot being inverted, and its outer side resting on the ground. The outer malleolus was very prominent, and the skin over it extremely tense. Immediately in front of this, and nearly on the same level, was a hard projecting surface, apparently smooth and rounded at its margin—being indeed, to all appearance, the navicular articulating surface of the astragalus, the long axis of which was placed transversely, instead of being in its natural oblique position. This portion of the astragalus—its head—seemed to rest on the calcaneum and cuboid bones at their junction; the skin over this part was very tightly stretched and already discoloured. The upper articulating surface of the bone could be distinctly felt internal to and beneath the external malleolus. The internal malleolus could not be distinguished, being, as it were, hidden in the soft parts forming

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the inner side of the foot. The arch of the foot was partially lost, and the length of the heel diminished. It seemed, therefore, not to be a mere dislocation of the bone forwards and outwards, but that, in addition, the astragalus was twisted on its own long axis.

Chloroform was administered, and reduction attempted, but in vain. After a consultation with his colleagues, Mr. Canton excised the astragalus by making a horseshoe incision, commencing just above the outer malleolus, carrying it forwards around the projecting head of the astragalus, and terminating beneath the same malleolus. Reflecting this flap, the bare head of the bone was seen projecting; it was seized, the adhering ligamentous structures carefully dissected away, and the entire bone removed. It was then found that a portion of the posterior and internal angle was broken off and remained in a comminuted state, still adherent to the internal lateral ligament of the joint; the inferior margin of the head was also somewhat bruised. The edges of the wound being brought together, an iron splint with a foot-piece was adjusted, and the patient removed to bed.

The case has progressed favourably up to the present time, and it is expected that a good recovery will ensue.—*Lancet*, Dec. 10, 1865.

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Obstruction by Clot of Right Middle Cerebral Artery Unattended with Heart Disease, and in a Patient who had been Suffering from Secondary Syphilis—Clinical Remarks.—J. C., aged 27, a carpenter, was admitted into St. Thomas's Hospital, under care of Dr. Bristowe, on May 2, 1863. It appears that on the morning of April 28 he went as usual, and seemingly in good health, to his work; that about 9 A. M. he was suddenly attacked with pain in the head and giddiness, without loss of consciousness; and that at the same time he lost the use of his right arm and of both legs. It was stated that he had been a temperate and healthy man, that he had never before had anything like a fit, or rheumatism, or, in fact, any serious illness, except syphilis. This latter disease he had contracted four years before, and had had secondary eruptions at intervals since.

On admission he was found to be perfectly sensible, but his speech was imperfect. He had in great measure recovered the use of his legs, but his arm continued powerless. Sensation was everywhere perfect. His pupils acted naturally, and his eyesight and hearing were unimpaired. His face was slightly drawn to the left, and he protruded his tongue with a slight inclination to the right. He complained only of some giddiness and of some aching in the shoulders. His excretions were passed naturally, but the bowels were inclined to be constipated. His tongue was white and moist; his appetite poor. The heart-sounds were natural. He remained for about ten days in much the same state. It was then noticed, for three or four days, that he was very drowsy. Still no material change in his condition occurred until the morning of the 16th, just after the visit. At that time he was complaining somewhat of pain in the head, and became suddenly insensible, and continued almost perfectly insensible up to the morning of the 18th inst., when Dr. Bristowe saw him again. At that visit, when loudly addressed, he partially opened his left eye, but took no further notice. There was complete ptosis of the right eyelid, which was said to have existed only since the morning. The pupils acted. The left arm lay perfectly still, but all the other extremities were slightly convulsed at times. His evacuations were all passed unconsciously. The pulse was 80.

He survived ten days, during which time his condition varied but little. During the first half of this period he had intervals of imperfect consciousness, during which he would open his eyes when spoken to, and endeavour even to put out his tongue; but afterwards he became wholly comatose. At first the pupils (though dilated) acted equally to light; latterly they acted a little irregularly, and the day before his death their axes were divergent. The paralysis continued throughout; but towards the close of life all convulsions ceased. The evacuations continued to be passed in bed, but the bowels were only relieved after the use of injections. The pulse gradually increased in frequency, until it attained, the day before death, a maximum of 140. During the last day or two of his life the breathing also became hurried, but unattended with cough, and his face became shrunken and ghastly. He died on the morning of May 28.

Post-mortem Examination.—There was

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the scar of an old wound on the scalp. The internal surface of the cranium was healthy. The arachnoid membrane was somewhat opaque and there was some turbid fluid in the arachnoid cavity. The pia mater was somewhat congested. The arteries at the base of the brain were healthy, with the exception that the right middle cerebral artery was obstructed by a firm, partly decolorized clot, which completely filled it, just before its division into branches. The middle lobe of the right cerebral hemisphere was softened, and the gray matter of some of its convolutions congested. The gray matter of the two central convolutions was paler than usual, and somewhat yellowish—the boundary between the gray and white matter being ill-defined. The gray matter of this portion of the brain presented under the microscope numerous compound granule cells; and similar cells, but in smaller numbers, were discovered in the adjoining white substance. The left corpus striatum contained a cavity about one-third of an inch in diameter. This had vascular walls, and contained some turbid fluid, which contained numerous large compound granule cells, with some nerve-cells and blood-corpuscles. The rest of the brain was healthy. The lower lobes of both lungs were congested and in a state of lobular pneumonia. The heart was in every respect healthy, the valves being entirely free from vegetations. The right ventricle contained a large quantity of yellow fibrinous clot, extending into the pulmonary artery. The capsule of the liver was thickened in patches, but the organ itself, beyond being a little fatty here and there, was healthy. The spleen was somewhat large, and its capsule was thickened. The kidneys were rather small, and presented on the surface a few irregular depressions. The remaining viscera were in a healthy condition.

Remarks by Dr. Bristowe.—The whole case is interesting in several points of view. First, there was obstruction by clot of one of the middle cerebral arteries, without heart disease, or, so far as could be detected, any source of embolism. The clot had doubtless formed in the situation in which it was discovered. Second, the patient had suffered until within a short time of his death from secondary syphilis, a condition which I have shown on a former occasion (*Path. Trans*, vol. x. p. 44) to be a not improbable cause of the obstruction by clot of cerebral arteries. In comparing the history of the above case with the appearance noted on dissection, there can be little doubt, I think, that obstruction of the right middle cerebral artery had produced the sudden change of symptoms which took place on May 16, and led to the disorganization on the right side of the middle lobe of the cerebrum. Whether, however, his first attack of paralysis (which evidently had some connection with the cavity formed in the left corpus striatum) had been the result of arterial obstruction on the left side, or of an ordinary apoplectic attack must remain doubtful. Against the first view must be placed the fact that no obstruction of the corresponding middle cerebral artery was detected; against the second, the fact that no remains of blood, no orange-tinted discoloration of the parietes of the cavity, and no hæmatoid crystals were recognized. It is possible that obstruction of some of the minute terminal branches of the artery may have been, in this case, the cause of obstruction.

I have not thought it necessary to give the details of treatment in the above case. It is sufficient to say that the treatment was of an ordinary character, and that it was wholly unattended with beneficial results. —*Med. Times & Gaz.*, Nov. 19, 1864.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Chronic Diarrhœa.—We are requested by Dr. DAVID STEWART, of Port Penn, Delaware, to recommend the use of *pure* precipitated carbonate of zinc in chronic diarrhœa and dysentery, especially those intractable cases that so frequently are the sequelæ of the typhoid fever of the Army Hospitals. Dr. Stewart assures us that he has treated such cases successfully after they had resisted the ordinary treatment in the hospitals; but he is not satisfied that the remedy deserves the credit of the cure in every case, as its employment was in several instances connected with the use of an atmosphere remarkable for its salubrity, also with good diet and other hygienic means. Nevertheless, his success with the remedy seems to indicate its use by others who have more extensive fields for observing its effects. "Dr. S. was

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formerly a teacher in the Medical Department of the University of Maryland and other schools of medicine in Baltimore," and his statement is entitled to consideration.

His formula is as follows:—

℞. Zinci carbonatis præcip. pur., ℥ss.
Morphiæ sulphatis, . . Gr. iij.
Cretæ præparatæ, . . ℥ijss.
Olei cinnamomi, . . Gtt. vj.
M. fiant pul. xij.

Sig. One powder to be given at intervals of three or four hours, p. r. n.

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New U. S. Hospital.—It is stated that a new hospital of great size is to be built on the Severn River about ten miles from Annapolis, Maryland. The grounds upon which it is to be erected are very extensive, so as to afford ample space to the patients for out-door exercise, and with every accessory which can contribute to the speedy recovery of patients.

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Surgeon-General of New York.—Dr. S. D. Willard, of Albany, has been appointed Surgeon-General of the State of New York on the staff of Governor Fenton.

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Starling Medical College Hospital.—It is said that a hospital is to be organized at Columbus, Ohio, in connection with Starling Medical College, which is to be placed under the management of the "Sisters of St. Francis."

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Philadelphia College of Pharmacy.—We are glad to learn from our contemporary, the *American Journal of Pharmacy* (Jan. 1865), that this school is recovering from the depressing influence exerted in scientific institutions by the existing condition of our country, and that the class the present session numbers 106.

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Obituary Record.—Killed, December 9th, 1864, in action near Bellfield, Va., by a shell, Dr. Lucius M. Sargent, Jr., Lt. Col. 1st Mass. Cavalry. It is stated, in an editorial in the *Boston Med. and Surg. Journ.* (Jan. 12, 1865), that "Dr. Sargent was born in Boston, Sept. 15th, 1826. His life, not a long one, was unusually varied and full of incident. At school, college, before the mast, as artist, physician, or soldier, he was always among the foremost where expedient, energy, talent, and courage were necessary for success. He had seen much of the world, and knew well both books and men. To whatever he undertook, he gave his whole energy with characteristic devotion. * * *

"In his last action he fell at the end of a successful charge, at the head of his column, sword in hand, at the very moment of victory.

"Strong-handed, yet tender-hearted—impulsive, yet tenacious of purpose—utterly without fear, yet watchfully cautious—gallantly daring in assault, yet undauntedly courageous in deadliest combat—of none of the patriot heroes who have nobly perished in unselfish efforts to save their perilled country, are the poet's words more *literally* true:—

'With knitted brow and lifted blade
In glory's arms he fell.'"

FOREIGN INTELLIGENCE.

Structure of Nervous System and Action of Poisons on Nervous Tissue.—M. Roudanowski has recently read, at the Académie des Sciences, a memoir of some importance on the structure of the nervous system, and a new mode which he has devised of investigating it. This last consists in slicing the nervous tissue previously frozen at a temperature of from 10 to 15 Reaumur. These slices are coloured by means of an aqueous decoction of cochineal, and then covered with Canada balsam or with a mixture composed of six or seven parts of *ichthyocoll* and eight of glycerine. Having described the minute structure of the spinal nerves and of the nervous centres, he gives an account of his observations upon the action of poisons on the nervous tissue. 1. Having poisoned cats, dogs, and rabbits by strychnine, nicotine, opium, and chloroform, he has found that all these substances induce changes in the nervous tissue. 2. The more energetic of these, as strychnine and nicotine, induce alterations in the nervous cells and their branches, while chloroform, opium, and perhaps alcohol, induce changes in the myeline. 3. The changes consequent upon nicotine are indicated by the strong pigmentation and destruction of nervous cells, with their prolongations only in the spinal cord at the point of commencement of the hypoglossal and vagi nerves. 4. Under the influence of these poisons he has remarked that, together with the congestion of the vessels

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of the roots of the nerves of the spinal cord, the reservoirs also increase in size. 5. A drop of an energetic poison, such as nicotine, kills a large animal, not because it chemically alters the metamorphic processes of the entire economy, but because it destroys small organs like these nerve-cells, which are the origin of the nerves of the principal vital organs. 6. Opium and chloroform act on the myeline, which, in place of assuming the form of amorphous granules, takes on that of brilliant shining bodies.—*Med. Times and Gaz.*, Dec. 31st, 1864.

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Deaths from Chloroform.—Dr. J. H. Huxley reports (*Lancet*, Nov. 19, 1864) the two following cases: W. L.—, a healthy young man æt. 24, was admitted into Devon and Exeter Hospital on Sept. 26th, suffering from a severe injury to the right foot. A heavy piece of timber falling on it had fractured the metacarpal bone of the great toe, and deeply lacerated the structures of the inner side and sole. The case went on well, and after the separation of some rather extensive sloughs, healthy granulations filled up the greater part of the chasm. The distal end of the fractured metacarpal bone, however, though evidently dead, remained firmly fixed, and considerably hindered the progress of the wound. The man was, therefore, told that he must either be contented to remain in bed several weeks longer, while the bone spontaneously separated, or must submit to a slight operation for its removal. He chose the latter, on condition that he might have chloroform. The heart was examined, and nothing being found to contraindicate the employment of an anæsthetic, the wish was acceded to.

On Nov. 1st, at ten A. M., the patient was carried to the operating-room. Two of the hospital surgeons and the house-surgeon were present; three pupils and two nurses were also in attendance. Forty minims (measured) of chloroform were placed in a Snow's portable inhaler, and the inhalation was commenced, the external valve being at first turned aside, and afterwards gradually closed. The man breathed calmly, and showed no symptoms of annoyance or distress, and in about a minute began to smile, talk, and move his head slightly. The pulse, which was kept throughout, beat quite steadily for from two to three minutes, when it suddenly became imperceptible. There was no congestion or other change of the countenance; the pupils were not dilated, and the breathing was as yet quite natural. The inhaler, to which no fresh charge of chloroform had been added, was, however, immediately removed. In the course of a few seconds the respiration became deep and sobbing, and the tongue was protruded between the teeth. No return of the pulse could be felt. The only approach to spasm or convulsion was, that for a few seconds the teeth were firmly clinched. This quickly passed off, and the tongue was again protruded. The time during which the respirations continued, unaided, after the pulse had ceased, may be put down at fully a minute, and not until still later did the face become congested, or the pupils dilate. The cold douche, ammonia, brandy, galvanism, and forceps for the tongue were (as is always the case at this hospital) at hand in the operating-room. The first was applied directly the pulse was missed, and in the shortest possible space of time brandy was injected into the rectum, solution of ammonia on lint was applied to the nostrils, and galvanic shocks were passed (with due intermission) through the cardiac region, whilst friction was applied to the extremities. The forceps were not needed, as the tongue did not fall back. Immediately the breathing began to flag, artificial respiration by the "Silvester method" was commenced, and this was steadily carried on for upwards of half an hour. The galvanism was applied at intervals for a like period. No trace of reaction occurred. It should be stated that the inhaler had not been used for any other case that morning, so that it contained absolutely no chloroform but the forty minims.

Autopsy six hours after death.—Body muscular, well nourished.—Thorax: Pericardium natural; surfaces of right pleura everywhere firmly adherent; both lungs healthy in structure, the right more congested than the left. On removing the heart (all the orifices having been previously secured), the ventricles were found firmly contracted and empty; the auricles contained some blood, the right in larger proportion; in these and in the large veins the blood was mostly, but not wholly uncoagulated. All the valves of the heart were perfectly healthy. The muscular substance was firm, of good colour, and without the slightest appearance of fatty or other degeneration. On microscopical examination, the ultimate

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fibres were found free from oil-globules, and the striæ were well marked. The walls of the left ventricles were slightly hypertrophied, without dilatation. The whole organ, washed free from blood, but with a portion of the large vessels adhering, weighed fourteen ounces and a half. Aorta healthy; no appearance of clots in the pulmonary artery.—Abdomen: Stomach moderately filled with food. Spleen natural; weight eleven ounces. Liver large, congested; weight five pounds twelve ounces. Kidneys large and much congested; weight —the right nine ounces and a quarter, the left nine ounces and three quarters. Both liver and kidneys were firm to the knife, and the surface of the section looked smooth and rather glistening, so that there was a question as to albuminoid (amyloid) degeneration; but there was no semi-transparent, glue-infiltrated appearance of the cut surfaces and edges; no reaction characteristic of amyloid change took place when solution of iodine was applied. Under the microscope, too, both the arteries and cells of the hepatic and renal structures appeared perfectly natural. After being allowed to remain for some hours (covered over to prevent evaporation), it was found that a quantity of blood had drained from the cut surfaces, and that the liver had assumed the ordinary size, while the kidneys were much reduced in bulk. Sections now freshly made showed perfectly natural surfaces—Head (examined last): The brain and its membranes were perfectly healthy, and not at all congested; blood, however, had probably drained away from the divided veins of the neck. Some urine drawn off from the bladder after the examination contained a trace of albumen, and a flocculent deposit consisting solely of epithelium.

At the inquest held on this case the jury returned a verdict of "Homicide by misadventure," and wholly exculpated the medical officers from blame in the matter.

The following case, which occurred in this hospital about three years ago, is subjoined, as it was not reported in any medical journal nor sent to the Chloroform Committee:—

R. G——, a very healthy-looking man, aged thirty-three, wished to have chloroform to avoid the pain attending cauterization of a sloughing sore on the penis. One drachm of chloroform, by measure, was placed in the inhaler and inhalation commenced. The patient soon became very restless, holding his breath and trying to avoid the vapour (which was, however, much diluted), so that the larger portion of the chloroform was wasted. He was allowed to sit up to spit, and then a second (measured) drachm was put into the instrument; but again he grew turbulent, and struggled so violently that it was found difficult to watch the pulse continuously, though every effort was made to do so. Suddenly he sank back motionless, with widely dilated pupils, and no trace of pulse to be felt. The inhaler was instantly removed from his face, and he continued to draw deep, gasping breaths for half a minute. Cold splashing was used, and artificial respiration by the "Marshall Hall Method" was resorted to without the smallest delay. Ammonia was applied to the nostrils, and subsequently a brandy injection was given, while galvanism and friction were assiduously employed. Pressure over the cardiac region (as suggested by Dr. Brown-Séquard in his lectures at the College of Physicians) was also tried. The artificial breathing was afterwards continued by the "Silvester Method" for upwards of an hour. No sign of returning animation occurred.

At the *post-mortem* examination, the heart was found to be of normal size, the ventricles were partially dilated, and both contained fluid blood. There was no valvular disease. The muscular structure was firm, of good colour, and without trace of fatty degeneration. The brain, lungs and abdominal organs were all carefully examined, but no sign of disease was found, nor was there marked congestion of any organ.

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Parasitism in the Production of Disease.—All living beings, from the moment of their birth to the hour of death, carry on, without interruption, some definite chemical process. Thus, *e. g.*, animals take oxygen from the air in order to burn up part of their substance, whilst plants decompose carbonic acid, retain the carbon, and return the oxygen to the atmosphere. The same law holds good with respect to the microscopic organisms in question. But with them it would appear to be the case, that certain chemical acts are proper to only certain species. We know, for example, that the yeast of beer transforms sugar into alcohol and carbonic acid; and further, that it (the

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Torula cerevisiæ) can only continue to live in the performance of this process. So soon as the sugar has become exhausted, the vegetable being dies. The plant cannot form alcohol directly, but it can produce a vast quantity of sugar, which it spreads throughout numerous fruits, stems, leaves, and roots. Let the plant die, and these sugars, dissolved in water, are instantly invaded by the little torula, there naturally developing itself, and transforming them into "fermented fluids." Thus wine, cider, beer, and analogous drinks, are originated. In its turn, alcohol mixed with water becomes the receptacle of a particular species of *vibrio*, individuals of which, interlacing on the surface of the fluid, form there a sort of membrane. This vibrionic membrane is endowed with a different power to the mass of yeast. It absorbs with great energy the oxygen of the air, by means of which it partially burns the alcohol, transforming it into vinegar. Further, if the vinegar be left exposed to the air, sooner or later it becomes invaded by the mycoderm of wine, which burns up the vinegar, and makes carbonic acid and water out of it. It is a *vibrio* which curdles milk and produces cheese, a *torula* which makes bread; in fine, wherever a vessel containing infusoria or a colony of these little workers is found, there will be established a manufactory of some chemical product of which man avails himself on a very large scale. Now that which is true in reference to the sugars of the vegetable world, we find repeated in connection with other organic compounds. No sooner does death occur than the corpse of the animal is delivered over to mucedinous fungi, which people its surface, and to certain infusoria, which develop in its interior. They attack its blood, its muscle, and, sooner or later, all of its tissues. The work of one species being completed, another minute animal or plant succeeds it, until all is accomplished—that is, in other words, the once living, breathing, perhaps speaking, matter is giving back to the inorganic kingdom in the form of water, carbonic acid, and ammonia. This wonderful series of events the physiologist can ever turn to with amusement and instruction. But not the physiologist alone, for the *pathologist*, whether of plants or of animals, has some work done for him by these microscopic beings. Certain of the mucedinous fungi will attack the grape, corn, the potato, &c., and then public calamity will ensue. Nor do animals escape. "Muscardine" overgrows the silkworm, and "ringworm" flourishes on dirty boys' heads. In the opinion of many, too, such terrible diseases as cholera and plague are fundamentally owing to the invasion of the blood by some of these minute living creatures. To no more interesting account of what such little organisms do towards originating disease can we refer the reader than to the paper of Dr. Henry Kennedy, in the *Dublin Quarterly Journal of Medical Science* for February, 1863. In this paper will be found the history of a case in which a disease impossible to distinguish from measles was apparently produced by the fungi of musty straw. References to analogous instances occurring in America may be also there met with; whilst in the *American Journal* for October, 1862, is a communication "showing, and in a very clear way, the prophylactic power which the inoculation of straw fungi exercises over the human frame, even when exposed to the contagion of ordinary measles."[1] According to Fuchs, De la Fond, Signol, Davaine, Tigri, &c., such diseases as the "sang de rate" of sheep, typhoid fever and influenza in man, depend on the introduction of *bacteria* into the mass of the circulating fluid; that these diseases may be propagated by inoculation from animal to animal, and from animal to man, by introducing into the body such of the diseased parts as contain these "bacteria," and which in many cases will also locally give rise to malignant pustule. A still further step is made by M. Signol, who states "that the presence of fat in the tissues and liquids of the system in certain diseased animals, and the resemblance of these 'bacteria' to those which are produced during butyric fermentation, favour the presumption that fat plays a very important part in the progress of the disease." In face of much that has recently been asserted in support of this mode of production of disease—an extension or modification of the long-known doctrine of para-

[1] Justice to Dr. Salisbury, the author of the paper here referred to, requires us to state, that he was the first to notice this production of measles by the fungi of musty straw, and it was not until *after* the publication of his paper that Dr. Kennedy understood the significance of his case. The writer in the *Lancet* with characteristic unfairness states the case so as to imply that the merit of the discovery was due to his own countryman.—Ed. Med. News.

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sitism—it is but right to allude to the late investigations of MM. LEPLAT and TAILLARD, who, from direct experiment, draw the following conclusions:—

1. When bacteria or vibriones are introduced through any medium into the blood of an animal, they do not produce any injurious results, unless, indeed, the medium itself contain certain virulent agents, for the action of which the forementioned bodies are not responsible.

2. If the vehicle employed in injection contain putrid matter in large quantity, there is poisoning of the blood; but this is not productive of contagious disease, since the blood thus contaminated does not produce similar effects when thrown into the system of another animal.

3. The statements concerning Penicillum glaucum producing psoriasis, and Oïdium Tuckeri phlegmonous inflammation, are not to be depended upon; for the injection of the sporular germs of either of these fungi into the veins of dogs is not followed by any ill effects on these animals.—*Lancet*, Dec. 24, 1864.

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Trichiniasis in India.—Trichiniasis is said to be rather common in India, and the great cause of it is diseased pork. The Sanitary Commission tell a revolting story of the way in which pigs, and even sheep, are fed in many parts of India. They get nothing but the most filthy description of offal, and then human beings eat the flesh, and get trichina spiralis. Some of the details are so unpleasant as to forbid narration; but those who know India and the personal practices of the natives will understand the full force of this statement by Dr. Gordon: "In an incredibly short space of time after the villagers have left the field it is as if they had never been there, while the herd by which the clearance has been effected may be found in some shady place near, or close to a tank, with a few of the more insatiable that have gone to hunt for dead dogs, cats, cattle, and Hindoos that have paid the debt of nature since the previous meeting, and have been thrown or left on the plain to be devoured by domestic animals or vultures." English people will find it hard to believe that flesh thus fattened is used for food, yet it causes no surprise here. The Sanitary Commission say: "In more than one official report received by the Commission these habits of Indian pigs are spoken of with something like actual approval, and one officer appears to consider that by the regular employment of pigs the necessity for entertaining conservancy establishments for the removal of filth may be to some extent avoided." Sheep are fed in this manner also. It may be necessary to add that in many of the principal stations in India the Europeans are safe from this danger, on account of the mutton clubs, which keep properly grain-fed sheep, and distribute the joints among the members. But in the large towns the servants buy meat in the bazaars without regard to what it has been fed upon. In a country where nature itself is always fighting against human life, we are obliged to live under conditions which would be thought utterly destructive in the most temperate regions of the globe. The food is bad, the water is bad, the air in the plains is like so much poison; the streets are foul with every kind of nuisance, drainage is impossible, the dead are left unburied, or just put an inch below the ground; and, in short, an army of hostile circumstances conspire against the health.—*Lancet*, Dec. 24, 1864.

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Legouest on Hospital Hygiene.—M. LEGOUEST, during a discussion at the Paris Hospital Society, observed that the conclusions drawn respecting the salubrity and mortality of civil Hospitals were liable to error, in consequence of the complexity of certain conditions, rendering them with difficulty comparable. In this point of view Military Hospitals are more safe objects of study, the elements for examination being so similar. He has, therefore, investigated the mortality returns at different epochs of the three military Hospitals, Val de Grace, Gros-Callou, and Vincennes. From an elaborate statistical account for the thirty-four years, 1830–63, it results that the various hygienic improvements which have been put into force during that period, and the diminution of the number of patients placed in the wards have invariably been accompanied by a diminution in the ratio of mortality. This conclusion holds rigidly true whether different periods of the history of each of the Hospitals be compared, or whether the three Hospitals be compared with each other. The practical conclusions which M. Legouest arrives at are: 1. That Hospitals should be placed not within towns, but in their suburbs; 2. They

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should be constructed in line, consist of a single story, and be surrounded by courts and gardens; 3. Where this is impossible, the means of periodically and entirely evacuating wards which have been long occupied should be provided; 4. The mortality is proportionate to the number of patients accumulated in a Hospital; all else being equal, the larger the population of the Hospital the greater its mortality.—*Med. Times and Gaz.*, Nov. 19, 1864.

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Sanitary Condition of Armour-clad Ships.—The following remarks on this subject, which we extract from a recent number of the *Lancet* (Dec. 24, 1864), is of especial concern to us in this country, where we are building so many of this class of vessels.

Lord Clarence Paget, the Secretary of the Admiralty, when addressing his constituents at Deal, a few days ago, made the following remarkable statement *à propos* of the *Victoria*—a line-of-battle ship, and, as things go, "totally unfit for all the purposes of warfare"—being sent as flag-ship to the Mediterranean. He said:—

"It is not done because we think the dignity of the Admiral requires a three-decker, as has been erroneously supposed by some; but it is simply because, attached to every large squadron, you require to have a roomy well-ventilated ship, aboard of which you may put a vast number of supernumeraries—that is to say, the reinforcements which are constantly being added to the crews of that fleet. *If you were to put them on board of armour-plated ships, the men would, from want of ventilation, speedily become utterly useless, and have to go into hospital.* And, therefore, until we can find a means of ventilating our armour plated ships, we must be satisfied to have attached to our squadrons one or more of these large roomy ships, on board of which all of what you may call the municipal duties of the fleet can be performed. I take the case of the flag-ship *Victoria*. Why, in the flag-ship in the Mediterranean we have at all times a great number, sometimes as many as two hundred supernumeraries, put at once on board of that ship. I ask, would the people of this country be satisfied if they heard that we had cramped up our men and caused fevers and diseases to break out among them because we had thought fit to put them on board of such ships only as were fit to go immediately into action?"

It would seem, then, according to the Secretary of the Admiralty, that our now numerous armour-clad ships are to be looked upon as little better than pest-ships, except for temporary purposes; that whatever advantages our fleet may have gained, by armour, in fighting capacity has been lost in health capacity. To save the crews from the more remote contingencies of warfare they have been exposed to the more immediate dangers of deadly and ever-present disease. Under the old system of naval construction, for one man lost in actual strife several were needlessly lost from disease. Under the present system, while the probabilities of the former source of loss are diminished, those of the latter are believed to be increased immeasurably.

History teaches us that the protection derived from defensive armour in the field of battle was so greatly outweighed by the hindrance to facile motion, that in the end mail and bucklers were done away with, and men put their trust in a better system of offence and greater agility. Is this also to be the history of armour in the navy? At least it must be admitted that there is a close parallel between the sanitary aspects of the question; and that, while casing our ships in armour, we have brought the crews into the same miserable health-condition which was peculiar to the mediæval warrior clad cap-a-pie in steel. But can it be that naval science halts so that she is unable to solve the question of ventilation of the between-decks of an ironsides? Or is it that she obstinately refuses, in spite of warnings and experience, to give to the question the degree of importance it deserves, and submit it to the same careful consideration which is at all times conceded to the fighting and sailing qualities of a ship? It is permitted to us, in the absence of satisfactory evidence to the contrary, to assume that the latter suggestion is the correct one. We have just grounds to believe that the question of ventilation is not beyond the reach of solution. When Mr. Radcliffe brought this subject before the Public Health Section of the National Association for the Promotion of Social Science, during the discussion on Dr. Gavin Milroy's paper on the Health of the Navy, at the London meeting in 1862, the President of the section, Mr. Fairbairn, expressed the opinion that there were no insuperable difficulties in the way of ventilating the between-decks

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of armour-clad ships. He pointed out, moreover, that in ships of the *Warrior* class, with but two capacious between-decks, the facilities for artificial ventilation were greater than in wooden line-of-battle ships. * * * *

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London Bakehouses.—Since bakehouses have been liable to inspection and subject to sanitary regulation, some improvement has taken place; but as a proof how much more is needed, let us give the following extract from the report of Dr. Ballard, the able medical officer of health for the parish of St. Mary, Islington:—

"I have before me the returns made by the Inspector of Bakehouses, who since his appointment has visited 192 bakehouses. He has furnished the particulars relating to each upon a form which I drew up for his direction. It may be as well that I should at once supply, for the information of the vestry, an analysis which I have made of Mr. Godbold's returns.

"1. Of the 192 bakehouses, seventy-two, or more than a third, are stated to be dirty—some very dirty. In many more, not thus returned as *generally* unclean, the walls and ceilings are described as dirty or dilapidated. In one, besides an accumulation of rubbish, a horse was kept in the bakehouse.

"2. In fifty-one the paving or flooring was broken or in bad condition. In one a defective drain ran beneath the bakehouse at the spot where the man stood to work at the trough, and the soil rose between the stones as they were stepped upon. In three the floor was undermined by rats—a pretty sure indication of foul effluvia. In one the walls were damp from leakage from a neighboring drain.

"3. Seven were without any means of ventilation whatever. In the rest the ventilation varied from excellent to very imperfect.

"4. In three there was no proper sulphur flue.

"5. In three a panned privy without proper water supply, or very dirty, was situated on the same level with the bakehouse, and near enough to introduce foul effluvia into it. In three other instances the privy was within the bakehouse itself; in one of these there was neither pan nor trap, the privy consisting of a bar of wood over an opening in the drain.

"6 In two the storeroom was dirty; in one of these there was also a stench from a drain.

"7. Twenty instances were discovered in which the bakehouse was used as a sleeping place, the custom where this was found being to admit the men some hours before the time for commencing work, so as not to disturb the master for the purpose of letting them in. In one of these instances the air was liable to be especially foul by the absence of a sulphur flue, and in another by the privy being within the bakehouse.

"8. In two instances the sleeping place for the workmen was a few inches below the level of the bakehouse; in one of these the sleeping place was without any means of ventilation.

"9. In five instances the men slept in the loft over the bakehouse and furnace—a very hot place. In one of these the man informed Mr. Godbold that the boards were so hot at times that he could hardly stand upon them, and that the place in consequence of the heat was swarming with bugs. One of these sleeping lofts was the medium through which alone the hot air and steam from the bakehouse could escape.

"10. In two instances sleeping rooms on a level with the bakehouse were not ventilated by windows opening to the extent required by the statute.

"11. Mr. Godbold in his night visits did not discover any youths under eighteen years of age (apparently) at work.

"12. There are fifteen establishments where it is stated that the business is conducted without night-work."

Without such a detailed tabular statement it would not be easy to form an idea of the filth and abominations which pollute the atmosphere in which our bread is made. The absorbent surface of the freshly kneaded dough is extremely well-adapted for becoming speedily saturated with the vaporous and gaseous abominations floating around it; and such bread can neither be cleanly nor wholesome.—*Lancet*, Dec. 17th, 1864.

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Obituary Record.—Died, Dec. 8th, 1864, of double pneumonia with pericarditis, after an illness of five days, William Senhouse Kirkes, M.D., Physician to St. Bartholomew's Hospital, aged 41 years. Dr. K. was well known in this country by his excellent hand-book of Physiology.

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The universal commendation with which this work has been favored by the medical press in England and the United States, and the very large sale which it has had, sufficiently show that the author has satisfactorily carried out the very complete plan of the volume, and that it supplies a want long felt by the student and practitioner.

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CLINICS.

CLINICAL LECTURES.

Two Lectures on the Laryngoscope. Delivered at the Royal College of Physicians by GEORGE JOHNSON, M. D., Prof. of Medicine in King's College, &c. &c.

LECTURE II.

The larynx, being the door keeper of the lungs, as well as the organ of the voice, is largely supplied with nerves and endowed with exquisite sensibility. Its muscular apparatus is therefore readily thrown into a state of spasm, not only by direct irritation of the larynx itself, but by disturbing influences transmitted from a distance through the nerves. That distressing disease, laryngismus stridulus, or crowing inspiration, in children, affords a good illustration of a purely spasmodic affection of the larynx, yet one which is often fatal. Even in cases of organic disease of the larynx, and in adults, there is very commonly a tendency to spasm, and before the introduction of the laryngoscope it was often impossible to determine to what extent the symptoms were the result of structural change within the larynx, and how far they were due to spasm of the laryngeal muscles. Now, by the aid of the mirror, this difficulty has been in a great degree removed.

Many years ago (in February, 1847) I was asked by a friend to examine the body of a man who had died, at the age of twenty-nine, of what was believed by two gentlemen who attended him to have been acute laryngitis. The symptoms had been, cough, hoarseness, dyspnœa with stridor, a hot skin, and a quick pulse. The dyspnœa was increased from time to time in paroxysms; at length one of these paroxysms resulted in suffocation. The larynx was found quite healthy, but in the chest there was a large cancerous tumour, which filled up the arch of the aorta and involved the branches of the pneumogastric nerve. The laryngeal symptoms had been purely

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spasmodic—a result of irritation of the nerves by the cancerous tumour in the chest.

The laryngoscope was not then in use. Now that we have that instrument, an error of diagnosis in such a case could result only from negligence.

In July last year a man, thirty-one years of age, was admitted into the hospital under my care with symptoms which were at first supposed to indicate laryngitis. He had cough with dyspnœa, loud laryngeal stridor and hoarseness. On examination of the larynx by the mirror with sunlight, I found only very slight congestion of the mucous membrane, and I at once declared that the laryngeal symptoms were the result of spasm and not of inflammation or other structural disease within the larynx Aneurism of the aorta was then suspected and carefully sought for, but no physical sign of aneurism could be found. There was no abnormal dulness on percussion, no pulsation, no morbid sound, no inequality of the pupils or of the pulse at the wrists. One suspicious symptom, however, was a difficulty in swallowing solids, which had come on about eight days before his admission. It was likely, therefore, that a tumour—probably an aneurism—was pressing on the œsophagus and on the recurrent nerve. Four days after his admission he died from the bursting of an aneurism into his œsophagus. Some blood was ejected from the mouth, but the greater part passed into the stomach An aneurism about the size of a small orange was found at the back of the transverse portion of the arch of the aorta: it had pressed on the œsophagus and opened into it. The stomach was full of blood. The left pneumogastric nerve passed in front of the aneurism, and was somewhat flattened; the recurrent branch passed behind the tumour, and had evidently been stretched and compressed by the aneurism.

In this case the laryngoscope was of considerable use. It clearly showed the absence of laryngitis, and thus rendered it probable that an aneurism was the cause of the laryngeal symptoms. The patient therefore was spared the ordinary treatment for laryngitis. Nauseating doses of antimony or ipecacuanha would probably have excited vomiting, and might have hastened the rupture of the aneurism.

Pressure on the nerves within the chest may *paralyze* them, or rather the muscles which they supply, and cause *aphonia* without laryngeal spasm.

In March, 1863, a man was under my care in the hospital with extensive cancerous disease within the chest. The whole of the left lung was solid, and impervious to air; the superficial veins over the chest and on the head and neck were much enlarged. He had a mass of cancerous glands above the right clavicle. He spoke only in a faint whisper; but there was no sign of obstruction in the larynx, neither stridor nor dyspnœa. The larynx showed the tips of the arytenoid cartilages resting against each other, and quite motionless. The glottis was always open to the extent of about one-eighth of an inch; it neither opened wider during inspiration, nor closed when he attempted to vocalize This immobility of the glottis was, without doubt, a result of paralysis of the laryngeal muscles consequent on pressure upon the nerves by the cancerous mass within the chest. The poor man determined to leave the hospital before his death, so that we had no post-mortem examination; but the nature of the disease was very evident.

In most cases of inflammation of the larynx there is more or less of spasm; but the tendency to spasm varies much in different cases, depending probably upon the varying degrees of susceptibility of the nervous system in different individuals. Two cases of laryngitis which have recently been under my care in the hospital afforded a striking contrast with regard to the excitability of the larynx. Both patients were women. One was thirty-two years of age, of very nervous, excitable temperament. She had cough, hoarseness, dyspnœa, and loud laryngeal stridor. On examination with the laryngoscope, the mucous membrane of the larynx was seen to be congested and swollen; but it was evident that the stridor during inspiration and much of the apparent distress were the result of spasm. She closed the glottis during inspiration, and the air was drawn through it with a loud noise; but that there was no mechanical impediment to the opening of the glottis was clear, from the fact that immediately after inspiration was over the glottis *opened to its full extent*. There was a perverted muscular action which *closed* the glottis during *inspiration*, and *opened* it during *expiration*. In this case the symptoms were greatly relieved

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by the internal use of morphia and chlorodyne, and by the local application of a solution of morphia in glycerine to the larynx by means of a brush.

In marked contrast with this case was that of a woman, aged twenty, who complained of some pain in the throat, dyspnœa, difficulty in swallowing, and hoarseness; yet, withal, as my clinical clerk, Mr. Shuttleworth, noted, there was "marked absence of restlessness and anxiety, her countenance wearing an expression of profound indifference." The manner and the physiognomy of the patient were such as to excite a suspicion that the throat symptoms were simply nervous and hysterical; yet, on examination with the mirror, I found the epiglottis much congested, the false cords red and swollen, and over the left arytenoid cartilage a red inflammatory swelling of the mucous membrane as large as a marble. The swelling soon subsided under the use of antiphlogistic remedies, and she left the hospital well.

Without the aid of the laryngoscope in these two cases, we should have formed a very incorrect opinion as to the state of the larynx. In the first case we should have over-estimated, in the second we should have under-estimated, the amount of structural change. In each case, too, a correct diagnosis suggested a more appropriate treatment than would otherwise have been applied.

In some cases of *syphilitic laryngitis* which have come under my observation during the last two years, laryngoscopic examination has afforded some very interesting results.

A woman, aged forty-one, was admitted under my care on June 8th, 1863. There was a history of primary syphilis two years before, and this was followed by sore-throat, bronchitis, and eruption on the skin. For six months before her admission there had been hoarseness and occasional dyspnœa.

At the time of admission the dyspnœa was very urgent, inspiration being prolonged and heaving, and attended with loud laryngeal stridor. The voice was very thick and husky; the skin and lips of a dusky hue.

Examination by the laryngoscope, which was well borne, showed considerable thickening of the mucous membrane over the arytenoid cartilages and at the side of the larynx—that is, in the situation of the false cords. No ulceration was apparent. The glottis was much narrowed, so that she breathed through a small triangular opening at the back part of the glottis. The epiglottis was slightly injected, but not thickened. There were patches of syphilitic psoriasis on various parts of the body. Three leeches were applied outside the larynx. She was directed to inhale steam, and to take five-grain doses of iodide of potassium three times a day. During the twenty-four hours after her admission the dyspnœa became more urgent and alarming.

Now the advantage of the laryngoscope in the case was this; it showed such an amount of swelling and obstruction in the larynx as the most successful medicinal treatment could not be expected to remove within a period of several days, while the narrowing of the glottis was so great as to threaten speedy suffocation. We were therefore emboldened to resort to tracheotomy before the lungs had become gorged to such an extent as to render the operation useless. Accordingly tracheotomy was performed by Mr. Antonini (the house-surgeon) the day after admission; the relief was great and immediate. She then took corrosive sublimate and iodide of potassium until the gums were slightly affected. Meanwhile we were enabled to watch the gradual diminution of the swelling within the larynx, and the gradual opening of the glottis, until at length it expanded to its full extent.

The tube was removed on the 15th of July, and she left the hospital on the 1st of August. There was then only a slight huskiness of the voice, the only morbid appearance in the larynx being a slight roughness and a dull red colour of the true cords.

Quite recently, a case of syphilitic disease of the throat has been associated with a remarkable alteration in the form of the epiglottis. A woman aged twenty-five was admitted on the 11th of March with syphilitic ulcers on the soft palate and on the back of the pharynx. There was some thickness of the voice and difficulty of swallowing, and there had been occasional dyspnœa. On examination with the laryngoscope, I saw that there was an ulcer on each side in the glosso-epiglottidean fold, just beyond the margin of the epiglottis. The epiglottis itself was red and thickened, and so much folded downwards that the two sides of its laryngeal surface were

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nearly in contact, and it was impossible to see into the larynx. This remarkable doubling up of the epiglottis was evidently a result of inflammatory swelling, extending from the ulcer at its margin over the lingual surface of the epiglottis. I have seen the reverse of this in some cases of tubercular ulceration commencing within the larynx. The mucous membrane on the laryngeal surface of the epiglottis has become thickened and swollen, and the result has been that the epiglottis has been flattened out, and has lost its usual arched form.

To return to our case of folded epiglottis. The woman was ordered to have a calomel vapour bath every night, and one-sixteenth of a grain of corrosive sublimate with five grains of iodide of potassium three times a day. In ten days the gums became slightly sore; the ulcers all rapidly healed; and as the thickening of the epiglottis diminished it became unfolded, opened out, and returned to its normal form. We could then see under it into the larynx, which was healthy.

I watched this case with much interest, and with some anxiety, for two years ago I had under my care a similar case, which ended fatally in a very sudden and unexpected manner. A man was admitted on the 15th of May, 1862, with an ulcer on each tonsil and a syphilitic eruption on the skin. There was some stridor with inspiration, but no dyspnœa, except after swallowing food, when he had occasional attacks, during which he was nearly suffocated.

At that time we had not learned to use the laryngoscope, and we were therefore in the dark as to the condition of the epiglottis and larynx; but the house-surgeon was requested to hold himself in readiness to perform tracheotomy if necessary. On the evening of the third day after his admission he was again seized with a fit of suffocation after swallowing food. The house-surgeon was sent for, who opened the trachea; but it was too late—the man was dead. We found that the syphilitic ulceration had extended from the tonsils to the edge of the epiglottis, and the epiglottis itself was thickened and doubled up exactly as in the case which I have just now related.

The probable explanation of the attacks of dyspnœa after swallowing appears to be this: During deglutition the opposed surfaces of the folded epiglottis were pressed together by the action of the pharyngeal muscles; the elasticity of the epiglottis being impaired by the inflammatory swelling on its outer surface, the opposed surfaces would not immediately separate when the act of deglutition was over, and then probably the pressure of the atmosphere during a forcible effort at inspiration would tend to keep the surfaces together and prevent the opening of the fold. Thus the folded epiglottis would act as a valve, and prevent the entrance of the air. Another explanation which suggests itself is that, in consequence of the irregular swelling of the epiglottis, the food entered the larynx during the process of deglutition, and excited suffocative spasm. Whatever may be the immediate cause of the distressing symptoms, it is evident that causes of this kind require very careful watching. And if we find, on laryngoscopic examination, that the epiglottis has assumed this folded appearance, the occurrence of one or more attacks of urgent dyspnœa after swallowing food would call for the immediate performance of tracheotomy, in order to prevent sudden death from suffocation before our remedies have had time to act on the disease.

On the 21st of July, 1863, I first saw, with my colleague Mr. Mason, a gentleman twenty-two years of age, who for about a year had been suffering from secondary syphilis. His face was much scarred by ulcers, which had all healed. At the time of my visit he complained of great pain and difficulty in swallowing, and the voice was husky. On examination with the laryngoscope, I saw an ulcer in the inter-arytenoid fold, in the boundary wall between the larynx and the pharynx, and just in the position to be irritated by the passage of food. He was treated by calomel vapour baths, with iodide of potassium and bark internally; and the ulcer was occasionally touched with a solution of nitrate of silver by means of a brush on a curved whalebone handle. The ulcer healed, the patient gained flesh and strength, and for a time the cure appeared to be complete. In the autumn, however, he returned to me, complaining of dyspnœa on exertion, a loud ringing cough, and stridor during a deep inspiration. Now, on examination of the larynx, we found that the cicatrix of the ulcer had contracted, and drawn together the arytenoid cartilages, so that the vocal cords are scarcely more than one-tenth of

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an inch apart; and through this narrow fissure he breathes. That is his condition at the present time. I have asked several of my laryngoscopic friends to examine this gentleman. We all agree as to the condition of the larynx. I have had it in my mind to cut the cicatrix, so as to set free the cartilages; but fearing that the same contraction would follow the healing of the incision, I have done nothing but watch the symptoms. A distinguished surgeon, who saw the patient and heard the stridulous breathing, but who did not look into his larynx, suggested that he should take more mercury for the removal of the obstruction in the throat; but it is certain that mercury could have no more influence upon this scar in the larynx than it would have upon the scars which have disfigured his face.

A man about forty-five years of age was admitted under the care of my colleague, Dr. Beale, on the 12th of December, 1863. His habits had been very intemperate. He said that five days before his admission he had been seized with sore-throat, hoarseness, and difficulty of breathing. At the time of admission these symptoms were still present, and inspiration was attended with loud stridor. He was so feeble that it was difficult for him to sit up in bed while I examined him with the laryngoscope. I found the mucous membrane of the larynx somewhat congested, but not swollen; but I saw clearly that the vocal cords were nearly in contact and motionless. This position of the cords accounted for the dyspnœa and stridor. But why were the cords thus in contact? I thought that possibly inflammation might have involved the crico-arytenoid articulation, and so rendered the cartilages immovable by a kind of anchylosis.

Tracheotomy was performed by Mr. Wood, but the man sank, and after death it was found that the arytenoid cartilages had become necrosed, and apparently had escaped each through an ulcerated opening in the mucous membrane; a small calcareous fragment only of each cartilage remained. This destruction of the cartilages accounted for the collapse of the glottis and the immobility of the cords.

I have seen two patients in whom *difficulty of swallowing* was a chief symptom, and who on that account were supposed to have stricture of the œsophagus, until the laryngoscope revealed the true nature of the disease.

One was a man sixty-four years of age, who came under my care at the hospital in March, 1863. He had experienced difficulty in swallowing solids for about seven months, and of late there had been difficulty in swallowing liquids. There was neither dyspnœa nor hoarseness, but his voice had somewhat of a nasal sound On examination by the laryngoscope, the epiglottis was seen greatly deformed and thickened; its surface, moreover, granular, and here and there ulcerated; it was so large as nearly to fill up the pharynx, and thus the difficulty in swallowing solids was fully explained. When the tongue was much depressed the epiglottis could be partly seen without the aid of the mirror. Examined by the finger, it had a hard and inelastic feel. Without doubt the disease is of the nature of epithelial cancer. On one occasion a piece the size of a horse-bean became detached and was expectorated: its microscopic characters were those of epithelial cancer. I have seen this man from time to time up to within the last few days. The disease has made very little progress, the lymphatic glands are unaffected, and his general health has suffered little impairment.

The other case of dysphagia was that of a farmer, seventy-five years of age, who was sent to me by Mr Roberts, of Dunster, in Somersetshire, in December, 1863. He had complained of cough, with rather copious expectoration, and great difficulty in swallowing, for about ten weeks. The voice was somewhat husky. On examination I found œdematous swelling of the mucous membrane of the larynx, the swelling being most prominent over the arytenoid cartilages. This swelling evidently prevented complete closure of the larynx in deglutition, and caused the dysphagia. Mr. Erichsen afterwards saw this patient, passed an œsophageal bougie, and declared that there was no stricture. The swelling was rapidly reduced, and the difficulty of swallowing relieved by scarification over the most prominent part of the tumour, followed by the application of solution of nitrate of silver on a brush.—*Lancet*, July 23d, 1864.

(To be concluded in our next No.)

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HOSPITAL NOTES AND GLEANINGS.

Clinical Remarks on Lithotomy and Lithotrity.—By HOLMES COOTE, Esq., F. R C. S., Surgeon to St. Bartholomew's Hospital. Although, gentlemen, you cannot attach more than a guarded amount of importance to surgical statistics, yet it may interest you to know that during the past two years the lateral operation of lithotomy has been performed thirteen times in St. Bartholomew's Hospital, with a mortality of two, amounting to a death-rate of 13.33 per cent. But this does not include the case of a man, aged twenty-five, in whom a calculous deposit formed around a canula introduced into the bladder after puncture above the pubes for retention of urine. Mr. Callender, who had charge of the case, very properly dilated the fistulous passage, extracted the "stone" without cutting, and the patient recovered. On the other hand, four patients have been subjected to the operation of lithotrity, and of these two have died, making a death-rate of 50 per cent.

Let us next inquire into the causes of death in these two groups of cases. After the operation of lithotomy, of the two fatal cases, one, aged four years, died from diarrhœa; the other, aged sixty-three, from acute inflammation of a thickened bladder

After the operation of lithotrity, of the two fatal cases, one, aged fifty-three years, died from bronchitis and abscess of the kidneys; the other, aged forty-seven years, from acute inflammation of the bladder, and granular degeneration of the kidneys

These facts have been furnished me by the surgical registrar, Mr. Willett, whose accuracy and intelligence we all respect.

I grant that the data here given are not sufficiently large for permanent deductions; and yet they correspond with the general impression formed respecting the relative merit of the two operations—namely, that the dangers attending lithotrity are greater than are commonly supposed, and that the very favourable returns quoted by some surgeons proceed from their considering each "sitting" as a completed case; whereas the result should be regarded only after the patient has been freed of his complaint. The late Mr. Stanley was well aware of the dangers attending lithotrity; indeed he delivered a clinical lecture in this theatre in illustration of the fact. I believe that I express his opinion in saying that the operation of lithotrity is suited almost exclusively to cases of men in middle or advanced life, of gouty habit, and with a deep perineum, in whom, after intervals of a few months, a small uric acid calculus drops from the kidney into the bladder, the kidneys being in their general structure healthy. In such cases you may give the patient much relief and greatly prolong his life by crushing each uric acid calculus soon after it has dropped into the bladder, and while it is yet small.

The lithotrite also is useful in breaking up concretions formed around foreign bodies introduced into the bladder. From Ser. 36 (No. 196) I have selected this specimen. It consists of parts of a gutta-percha bougie, about five inches in length, incrusted with deposits of lithate of ammonia, ejected from a man's bladder after being broken into several pieces by lithotrity. The bougie was being passed by the patient twenty-seven days prior to its removal, when it broke between four and five inches from its distal extremity, the fragment being left in the bladder. A surgeon immediately attempted its removal by cutting into the urethra through the perineum, but a spasmodic action of the membranous portion ensued, and the whole fragment was drawn into the bladder. It there lay across the neck, was readily reached with the lithotrite, turned, and an effort made to withdraw it; subsequently I broke it into several pieces, each, as you see, about an inch in length. They were expelled at one act of micturition violently from the bladder the day following the last operation.

In this specimen (Ser. 36, No. 194) you see a portion of sealing-wax, which had been introduced into the bladder three years prior to its extraction. It is almost entirely incrusted with calculous matter.

The lithotrite should under no circumstances be used for the purpose of crushing an oxalate of lime calculus, the character of which is generally recognized by its sharp, ringing sound. The fragments are always sharp and irritating to the bladder, and it not uncommonly happens that the lithotrite fails to act on the great mass of the stone.

Most calculi are composed of uric acid. We have a collection of above 200, and of these there are of uric acid alone, 30; of urate of ammonia, 13; of calculi composed

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of two layers, uric acid nucleus, 16; urate of ammonia nucleus, 25; of calculi composed of three layers, uric acid nucleus, 7; urate of ammonia, 18; total, 111. But this number would be much higher were it not that very many uric acid and urate of ammonia calculi have been thrown away as too small and too common for preservation.

Next in frequency comes the oxalate of lime calculus, amounting to 40; of the fusible calculus, 19; phosphate of lime, 11; cystic oxide, 2. The other specimens are composed of carbonate of lime, or are concretions formed upon foreign bodies.—*Lancet*, Dec. 31, 1864.

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Cases of Chorea with Clinical Remarks.—Chorea shows well the danger there is in thinking of a disease as one of a nosological division. Although in one sense a disease of the nervous system, its frequent association with rheumatism shows that it would be a great error to work at it as a nervous affection only. What its precise association with rheumatism may be is a question very much disputed. Some think that the rheumatic "poison," be it what it may, produces chorea by its direct effect on the nervous centres; others, as the late Dr. Kirkes, that the association is indirect—with organic disease of the valves of the heart. There is certainly very frequently a mitral murmur in chorea, but as to the interpretation of this murmur there are various and contradictory opinions. Dr. Walshe thinks it is frequently due to irregular action of the muscular apparatus of the valves. Other physicians think that it is frequently due to organic disease of the valves themselves. According to the late Dr. Kirkes, vegetations are invariably found on the valves at post-mortem examinations of patients who have died of chorea. We have frequently heard Dr. Wilks and Dr. Andrew make the same remark. But admitting that the connection is, as Dr. Kirkes believed, between valvular disease and chorea, and not directly between rheumatism and chorea, we have difficulties in explaining the manner of the connection. The association of some other diseases of the nervous system—hemiplegia, for instance—with valvular diseases is, as Dr. Kirkes first pointed out, by embolism. It is possible that a similar explanation may hold good as regards chorea. Yet chorea, even when strictly unilateral, cannot be due to plugging of any main trunk, like the middle cerebral, or there would be actual paralysis. Dr. Kirkes believed that the direct causes of the motor phenomena of chorea were partly the circulation of morbid blood in the brain, and partly the temporary obstruction of the minute capillaries by fibrinous particles. Dr. Hughlings Jackson has suggested that the cause may be obliteration of the small branches supplying convolutions near the corpus striatum. It seems certain that there are convolutions in this region which have to do with guiding the muscles of articulation; and it may be reasonably supposed that there are others for corresponding actions of the muscles of the limbs.

The following cases of chorea, with remarks, by Dr. Russell, are valuable additions to the clinical history of chorea. It is most important to complete the clinical history of this disease, as it has a wide bearing on the pathology of the nervous system:—

The first case is of interest by showing in a typical manner the presence of two factors, both of which are frequently in combined operation in producing the disease, viz., a depressed (paretic) condition of the nervous centres and remote irritation in the shape of valvular or other disease of the heart. This union of causes was especially insisted upon by Dr. Kirkes (*Medical Times and Gazette*, June 20, 1863) as very influential in producing chorea.

In this patient the cardiac affection, which was undoubtedly in part, if not wholly, connected with the preceding rheumatic fever, was closely connected with the outbreak of the chorea. On the other hand, the occupation of the patient, the protracted exposure to muscular effort day by day in a young and growing boy, and the obvious evidence of fatigue which his history affords, conjoined with his attenuated frame, afforded ample testimony to the existence of great exhaustion of cerebral and spinal power. To such exhaustion the highly emotional character of the boy fitly answered, and probably his sudden death must be in great part attributed to the same cause. In the post-mortem examination, although the pale softening of the nervous centres—noticed by Dr Kirkes as observed in all the fatal cases of chorea examined by himself, and in a large number of those recorded by others—was not present; yet the emaciated

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condition of the brain, as shown by its separated convolutions and by the increase in the subarachnoid fluid, and also the empty state of the minute arteries of the brain and cord, fully answer to the same description of disease.

Chorea—Recent Peri- and Endo-carditis —Death by Fainting.—J. B., aged 14, a messenger of the Electric Telegraph Company. He was sometimes occupied for twelve hours, as a day's work, and suffered much from fatigue. He would come home quite fagged. He had, besides, a poor appetite for meat. He has been very much exposed to wet and cold, not only in his occupation, but also in consequence of very defective accommodation provided for the boys at head-quarters. His father is very rheumatic, and when a boy had chorea.

The patient had his first attack of rheumatic fever, after exposure, in September last. During the fever his side was blistered, and his doctor said that his heart was inflamed. He was confined to bed for a fortnight, and three days after he got up the chorea commenced. The movement at first affected the left side of the body; but whilst in the Hospital each side of the body seemed affected to an equal degree. He was much emaciated, exceedingly emotional, but very quick and intelligent.

The choreic movements at his admission, four days after the commencement of the attack, were very severe and general, implicating the muscles of the face and eyeballs, and at times rendering articulation unintelligible. In the chest the physical signs indicated the disease in the heart discovered after death, though Dr. Russell was not then aware of its full extent.

His amendment after his admission was very rapid, and for the first week was effected without the aid of medicine, the treatment being confined to rest in bed and nutritious diet; subsequently he took zinc, and then steel and cod liver oil.

Unfortunately, he was sent too early to the Convalescent Institution, whence he returned with effusion into his chest and increase of the movements. He was confined to bed; but one evening he got up to go to the water-closet, and in returning fell forwards on his face, and was taken up dead.

Autopsy Sixty Hours after Death.—Considerable emaciation; general fluidity of the blood. The large veins of the pia mater were full of blood; a spot of ecchymosis, about the size of a sixpenny piece, existed on the left hemisphere. A considerable quantity of sub-arachnoid fluid lay over the surface of the brain, and the sulci between the cerebral convolutions were much increased in width. The vessels at the base of the brain were perfectly healthy, their branches quite pervious. The gray matter of the convolutions, Dr. Russell thought, was rather pale. Every part of the brain was beautifully healthy in structure; the edges of the sections were sharp, and not a particle of cerebral tissue adhered to the scalpel.

The tissue of the cord was equally firm and healthy. Dr. Russell examined by the microscope the spinal cord and one corpus striatum, and says: "So far as my means of investigation extended, these organs were perfectly healthy, with one exception; that in each there was marked deficiency of blood in the minute vessels; the contrast in this particular between them and the corpus striatum of an old hemiplegic patient which I had examined the night before was most striking."

The heart presented the remains of recent pericarditis, in an universally adherent pericardium. The left ventricle was, besides, greatly dilated, and hypertrophied to a corresponding degree. A thin layer of lymph lay upon the lining of the left auricle, and the mitral valve was thickened and puckered at the edge. The pulmonary artery was perfectly free. The other organs were healthy.

A portion of the history of another case of chorea is added by way of contrast to the preceding, as it illustrates the operation of a cause which acted directly and solely upon the brain. Severe mental emotion, in the shape of fright, induced in a child constitutionally feeble, sufficed to bring on the disease almost immediately; the rheumatic and cardiac element being entirely wanting.

Chorea from Fright—Heart Healthy.—A. W., aged 7, a feeble child of a family apparently consumptive, but quite free from rheumatic tendency, has never suffered from rheumatism, unless some pain in his joints, which is relieved by rubbing, is to be referred to that disease. Ten months ago the child was taken to see his dead mother; he was impressed by the sight, but not mischievously. Two days after he was locked up in a dark room by a servant

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girl from noon till eight in the evening. His screams at last aroused the neighbours, and he was taken out through the window. Next morning, at breakfast, the boy looked ill; he shook in every limb, and was not able to hold his cup. This was the commencement of the chorea, from which he had never fairly recovered. His sleep was disturbed after the fright; he was afraid to go to bed in the dark, and screamed in his sleep. At the same time he lost his appetite, and his spirits were depressed. His memory also became impaired; "he seemed to lose his recollection of his learning," and "he gets very forgetful," and learns with difficulty. In all these particulars he has undergone a complete change.

The choreic movements have been confined to the right side. His articulation has never been affected. He is a very small-made child, with dark hair and eyes, thin, and delicate. Repeated examination fails in discovering any abnormity connected with the heart, save feebleness of impulse according with the general weakness of his body.

It may, however, happen that mental influence and cardiac disease may co-exist in the same subject. Of this the following case is an example. There can, however, be no hesitation in assigning the alarm as the immediate cause of the chorea. The disease of the heart may not improbably date from the attack of scarlet fever in childhood, and doubtless co-operated with the other unfavourable influences noticed in the history to depress the power of the nervous centres.

Chorea after Fright—Mitral Disease of the Heart.—A. P., aged 17. Her family history and her own are quite free from rheumatic tendency, but her father was insane. She had scarlet fever when very young, but has never suffered from short breath until quite lately. She has been much confined at a very sedentary occupation, and has lived very badly: she looks dirty and ill cared for. Six months before Dr. Russell saw her she was on the water with a pleasure party, when the boat filled, and she was in danger of drowning.

The alarm effected an entire change in her mental condition; she became extremely nervous and timid; at times she has been hysterical and "awfully passionate." Her nights have been unquiet, she dreamt vividly, and was deeply impressed by her dreams; one night she became persuaded that her sister's child was dead, and was with difficulty persuaded of the groundlessness of her fears. She has even been quite "wild." In all these respects her character has become quite unlike what it was before the accident. Her intellectual faculties, however, have remained entire.

Her aunt cannot fix the exact date of the commencement of the chorea; she never worked after one week from the date of the fright, but it was a month before she had medical attendance: she was then declared to be suffering from St. Vitus's dance. On closer questioning, however, it was ascertained that a week after the fright she was obliged to leave off work because she could neither thread nor use her needle; she drew out the thread as fast as she put it in, or twisted it about.

The left side of the body was chiefly affected, the lips and tongue inclusive, so that articulation was impaired.

On examining her chest, a soft systolic bellows sound was heard at the apex of the heart; no bruit was present in the course of the aorta.

She perfectly recovered in seven weeks under morphia, tonics, and cod-liver oil: her sleep also became sound. It is to be particularly observed that the bellows sound underwent no change after the cessation of the chorea.—*Med. Times and Gaz.*, Jan. 28, 1865.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Attention by the Sanitary Commission to the Comfort of United States Soldiers.—An officer of the British army, in a communication published in the number of the *Edinburgh Medical Journal* for January of the present year, states: "The sick and wounded soldiers of no other service have been so well cared for in regard to his creature comforts as the Federal. What with the Sanitary, Christian, and State Commissions, acting independently of the Purveying Department, the requirements of the army hospitals have been well supplied. These Commissions act as adjuvants to the Medical Department; not professing to control or interfere in any way with the arrangements thereof, but only

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assisting in ameliorating the distress of the sick and wounded. The Sanitary Commission, from its influential connections, has been of great and material assistance to the army; aiding the Medical Department in every way, either when short of supplies or in want of means of transport, and it is now so well organized, that at a moment's notice it can send to the front, or to any other place, from the base of field operations, any quantity of necessaries. The Commission is continually receiving from all the large cities in the Union, as well as from private sources, supplies, either in money or materials, which are constantly arriving at the base of field operations, and are obtainable for hospital use on requisition made by brigade and divisional surgeons. The internal organization of this Commission is remarkably well arranged, and reflects the highest credit on those connected with it."

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Pennsylvania State Medical Board.—A Medical Board, convened by order of Surgeon General Phillips, of this State, will assemble in Philadelphia on the 6th of March, to examine candidates for appointment as Assistant-Surgeons in Pennsylvania Regiments. Physicians in good health, furnishing proper testimonials as to moral character, &c., will be admitted to the examination.

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Jewish Hospital Association.—A society under this title was organized at Philadelphia on the 19th of February. The following gentlemen were elected officers:—

President.—Alfred T. Jones.

Vice-President.—J. Binswanger.

Treasurer.—S. Weil.

Secretary—Mayer Sulzberger.

Directors.—Joseph Einstein, Abraham S. Wolf, M. M. Bayersdorfer, Judah Isaacs, M.D, E. W. Arnold, R. Brunswick, Rev. Isaac Leeser, M. Thatheimer, Wm. B. Hackenburg, Jacob May, Simon Ezekiel, S. Alexander.

Liberal donations were subscribed at the meeting, and a committee appointed to obtain members Special provision is made in the laws of this Society to admit patients of other denominations, should they apply.

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Vital Statistics of Philadelphia, 1864.—It appears from the annual report recently made to the Board of Health that the whole number of *births* registered during the year 1864 was 15,591, being an increase over the previous year of 298 or 1 94 per cent. Of these the number of coloured children was 242, a decrease of 50 from the previous year.

The number of *marriages* registered was 6752, an increase of 1278 or 23 36 per cent. over the previous year.

The number of *interments* was 17,582, an excess of 1791 or 11.29 per cent. over the previous year. Of these 1,309 were of coloured persons, being an excess of 542, or nearly 71 per cent. over that of the previous year.

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Toland Medical College.—This is the title of a new institution recently chartered at San Francisco, California. The college building, which is said to be large and convenient, was erected by Dr. H. H Toland, and with the lot on which it stands was most liberally presented by him to the trustees of the Institution.

The faculty consist of the following gentlemen:—

H. H. Toland, M. D., President and Professor of the Principles and Practice of Surgery.

James Blake, M. D., Professor of Obstetrics and Diseases of women and children.

J. Newton Brown, M. D., Professor of Anatomy.

C. L. Lane, M. D, Professor Institutes of Medicine.

Wm. O. Ayres, Professor Theory and Practice of Medicine.

J. F. Morse, M. D., Professor of Clinical Medicine and Diagnosis.

Thomas Bennett, M. D., Professor of General Pathology.

H. Gibbons, M. D., Professor of Materia Medica.

Robert Oxland, M. D., Professor of Chemistry.

FOREIGN INTELLIGENCE.

Lesion produced by Lifting Children by the Wrist.—Dr. Bourgeois comments upon an unnamed lesion which is produced by the sudden raising of children of from 18 months to 3 years old by the wrists. Some place its seat in the wrist, others in the shoulder, and the majority in the elbow. Great pain immediately follows the acci-

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dent, the child's arm hanging down by the side, with the forearm in a state of marked pronation. When the arm is left to itself, supported in a sling, the pain subsides gradually, and in the course of two or three days the normal movements are recovered. When a surgeon is consulted—and the author has met with more than 150 of these cases—he is not able to detect any displacement, deformity, or tumefaction; but when the child's cries have become somewhat pacified, he finds that it is the movement of the forearm on the arm which gives rise to most of the pain. M. Bourgeois, from a consideration of the anatomy of the parts and the mode in which the force is applied, comes to the conclusion that the lesion consists in a slight displacement of the head of the radius in the direction of its axis; in other words, in a diastasis of the superior radio-cubital articulation, similar to that often observed at the lower end under other circumstances. Seating the child on the lap of an assistant, he grasps the elbow with the palm of the left hand, so as to keep the limb firm by surrounding it with the fingers, and then, taking hold of the lower part of the forearm with the right hand he rotates it outwards, and flexes it at a right angle. A slight cracking is rather felt than heard, and the power of moving the arm is restored at once.—*Ibid.*, from *L' Union Méd.*

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Baron Liebig's Soup for Children.—With that remarkable estimation of the greatness of small things which is one of the most valuable of his many high intellectual qualities, and with a tender appreciation of the importance of small people, Baron Liebig devotes a special article in an English scientific periodical[1] to the description of a new article of diet which he conceives to be the most fitting substitute for the natural nutriment for those children who are by circumstances robbed of their mother's milk. It is well known that cow's milk does not adequately represent the milk of a healthy woman, and when wheaten flour is added, as it commonly is, Liebig points out that, although starch be not unfitting for the nourishment of the infant, the change of it into sugar in the stomach during digestion imposes an unnecessary labour on the organization which will be spared it if the starch be beforehand transformed into the soluble forms of sugar and dextrine. This he effects by adding to the wheaten flour a certain quantity of malt. As wheaten flour and malt flour contain less alkali than woman's milk, he supplies this when preparing the soup. This "soup" may be shortly prepared as follows: "Half an ounce of wheaten flour, and an equal quantity of malt flour, seven grains and a quarter of bicarbonate of potash, and one ounce of water, are to be well mixed; five ounces of cow's milk are then to be added, and the whole put on a gentle fire; when the mixture begins to thicken it is removed from the fire, stirred during five minutes, heated and stirred again till it becomes quite fluid, and finally made to boil. After the separation of the bran by a sieve, it is ready for use. By boiling it for a few minutes it loses all taste of the flour."

The immediate inducement for his making the soup was that one of his grandchildren could not be suckled by its mother, and that another required, besides his mother's milk, a more concentrated food. In both cases, as well as in other families where it had been introduced, the soup proved an excellent food, the children thrived perfectly well, and many a petty suffering disappeared after some weeks' use of the soup. He often takes it prepared with ten parts of milk and two parts of malt flour, with tea, for his breakfast. He adds that "Dr. Von Pfeufer, the most renowned physician in Munich, has induced the apothecaries of the town to keep for sale a mixture of half an ounce of malt flour and seven grains and a quarter of bicarbonate of potash, milk and wheat flour being supposed to be in every house. The malt flour ought to be always freshly made from the malt.—*Lancet*, Jan. 7, 1865.

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Re-vaccination in Belgium.—M. Vlemincxx, the President of the Belgian Academy of Medicine, has made an interesting communication to that body upon the subject of re-vaccination. In a paper read in 1862 he gave an account of 2018 re vaccinations, and now adds 823 additional observations, making in all 2841, the subjects being inmates of prisons and penitentiaries. In 1518 of these subjects exhibiting distinct vaccination marks, re-vaccination succeeded in 308, or 19 per cent., and in 599, who had

[1] The Popular Science Review. Edited by Henry Lawson, M. D. No. XIV., January, 1865. R. Hardwicke, Piccadilly.

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distinct cicatrices from variola, it succeeded in 178, or 30 per cent. An analysis of the ages of these subjects leads M. Vleminckx to the following conclusions: 1. Re-vaccination is successful in proportion to the length of time that has elapsed since the first vaccination or an attack of variola. 2. It may be generally dispensed with prior to the twenty-fifth year. 3. From that age its protective power progressively increases. 4. The fact of its proving unsuccessful on the first occasion should not prevent our having recourse to it at a future period, as we have no proof that the receptivity may not have returned in the interval. 5. The re-vaccination of children at schools is useless, for not one of the 2841 cases manifested a return of receptivity prior to the 15th year. Do these principles equally apply to the subjects of smallpox? To answer this question we must first be able to determine whether the manifestation of receptivity of vaccine virus by them positively indicates a condition of the economy which does not render them exempt from a second attack of variola. This is probable, but not demonstrated. However this may be, such persons should not hesitate to submit themselves to re-vaccination, which, while it is itself a harmless procedure, may save from a second attack of variola. M. Vleminckx adds that every precaution has been taken to secure the greatest exactitude in these figures, all cases having been rejected which seemed to admit of a shadow of doubt. The subjects of re-vaccination had always been duly vaccinated, or had had undoubted variola; and where signs of this were not distinct, the re-vaccinations were not counted, although successful.—*Med. Times and Gaz*, Nov. 26, 1864.

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Anæsthesia by Chemically Pure Ether.—MM. Regnauld and Advian, pharmaceutists, laid before the Imperial Academy of Medicine, Dec. 27, 1864, a work on the method of obtaining chemically pure sulphuric acid. M Gosselin stated that at the request of MM R. and A. he had tried their pure sulphuric ether, and found its effects far more rapid and certain than that of ordinary ether, and that the period of excitement did not occur. Four to eight minutes sufficed for the production of complete anæsthesia, and as death had been produced in a certain number of cases from the inhalation of chloroform, whilst none had resulted from ether, he thought the latter should be preferred to the former.—*Révue de Thérapeutique Méd.-Chir.*, Jan. 15, 1865.

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Anæsthesia from Chloroform, prolonged by Subcutaneous Injections of Morphia.—Experiments have lately been made upon dogs, by a committee appointed by the Medical Society of Versailles, to test the value of the above method. Five experiments were undertaken. On the first dog chloroform inhalation alone caused anæsthesia for nineteen minutes; with inhalation and the injection of about half a grain of morphia, thirty-six minutes. On a second dog, with chloroform inhalation alone, the anæsthesia lasted thirty minutes; but the same inhalation followed by an injection of one grain of morphia caused an anæsthetic state of one hour and twenty-seven minutes. The same experiment being repeated, with an injection of one grain and one-tenth of morphia, produced anæsthesia for five hours and forty-four minutes. The committee state in their report that the prolongation of anæsthesia by subcutaneous injections of morphia must be admitted as a fact, although they do not wish to be over-positive, seeing that their experiments are but few, and, in one instance, performed twice upon the same animal.—*Lancet*, Jan. 14, 1865.

Hospital Hygiene.—The correspondent of the *British Medical Journal*, in giving an account of the recent meeting of the Association of German Naturalists and Physicians at Giessen, states: "I went to the clinique of Professor Roser, now one of the most eminent teachers and practitioners of surgery in Germany. This is a beautiful new building of red sandstone, for the reception of surgical cases only. The great feature of it is, that there are no wards containing more than four beds, and most of them contain only two. Professor Roser said that if he could help it, he would never collect more than two surgical cases in one room. Accordingly, he has a minimum of pyæmia, and great success in surgical operations. There is, at last, a practical condemnation of those dens of wound-poison, the enormous wards of general hospitals. When, at Leipsic, I saw the crowded wards, the spasmodic anxiety to effect ventilation by all manner of openings, and the shed in the yard of

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the hospital, where, in beds, all badly suppurating cases are kept, as if in the open air—all the horrors of pyæmia as I had seen it in military hospitals, and, in a lesser degree, in civil hospitals, abroad and in this country, came before me. I remember a conversation which I had with Professor Bardeleben, of Greifswald, on the repeated use of bandages. This surgeon causes all bandages and dressings which have been once applied to open wounds to be immediately destroyed. Cheap calico serves all his purposes, and assists in preventing pyæmia. I had advocated long ago that bandages should not be used twice in the dressing of wounds or open sores; because I knew that they could not be cleaned, or, in fact, were never cleaned effectually. I came to Leipsic; and in the hospital uttered this opinion to Dr. Neumann. Almost offended, he called for the nurse in charge of the bandages. No. 1, unexceptionable; No. 2, unexceptionable. No. 3, full of yellow and otherwise coloured stains. They were packed up in silence. "We cannot get them out, sir," said the nurse. "Exactly so," said I; "that is just what I said to Dr. Neumann. You ought not, in my opinion, to be charged with the filthy and disgusting service of washing used bandages; it infects your fingers and clothes; it saves pence, and costs lives. The washed bandage is the carrier of infection, which keeps open the old and callous sore upon the leg. But the new wound—woe to him who has it! If your forceps, your lint, your charpie, impregnated with the hospital air, your infected bandage, touch it, it is death." If nurses in lying-in hospitals are obliged to wash infected clothes of any kind, or if such are used, no one need be astonished at the outbreaks of fever amongst lying-in women. They are as certain consequences of this sort of bad management as pyæmia is of the "clean" bandages and "pure" air of general hospitals. But in Professor Roser's place, there was nothing of the kind to be objected to. True, the walls were not done in "Parian" and "non-absorbing;" but the wounds looked healthy. A boy, with the eighty-fourth tracheotomy of Professor Roser upon him, was recovering so fast that, on the second day after removal of the canula, he could cough strongly, and show that the hole in his windpipe was permanently closed. From the clinique, we went in a body to the anatomy building. There dislocations of the elbow backwards were made and set. But the greatest lesson was the treatment of wounds of the skull with depression. With a little chisel and hammer, small fragments at the margin of the fracture were removed, and then the fragments of the inner table could be removed with the forceps with ease, and the wound cleared of every obstruction. There was a new demonstration how unnecessary and irrational that operation is which passes under the name of trephining. I have denounced it for fourteen years, with a large and successful experience in the treatment of compound fractures of the skull, particularly from gunshot wounds, by my side. If I live a little longer, I shall see Desault's idea, for he conceived it first, and Stromeyer's teaching, for he gave it a living breath, victorious.—*British Med. Journ.*, Nov. 26, 1864.

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Mortality at the Maternité Hospital, Paris.—During a recent discussion at the Paris Hospital Society, M. Guyot stated that having replaced M. Hervieux at the hospital Maternité during three months, he found that the mortality exceeded all that he could have imagined; of 492 women who entered for delivery between July 15 and October 1, 91 died; and of 174 who entered the infirmary as patients 82 died. During the first fortnight of October, 15 other deaths had to be added to this frightful list, and even this did not represent the entire number of women who had contracted the germs of death in this establishment, for a certain number left it in a desperate state to die either at other Hospitals or at home. It was from purulent infection rather than metro-peritonitis that these unfortunate women succumbed. In M. Guyot's opinion the establishment ought to be suppressed, especially as the conditions of the lying-in wards of the various Paris Hospitals are in a far more satisfactory state. The mortality observed at the Maternité was not the result of an epidemic, but the ordinary state of affairs there. M. Gallard observed that the Paris Maternité did not stand alone in this matter, for at the Vienna Maternité and in all establishments in which agglomerations of lying-in women exist puerperal fever is endemic.—*Med. Times and Gaz.*, Dec. 17th, 1864.

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Twofold Inoculation; or, the True Chancre complicated with the Soft Venereal Ulcer.—As a very considerable amount of scepticism and misconception appears to prevail on this subject, and as it is in accordance with our own observation, we must dwell a little upon this knotty point, which is, in reality, a very simple one. Let us assume, as an hypothesis, that there are two distinct poisons, producing, the one a local, the other a constitutional affection, and that these are not interchangeable. Now, as the latter alone possesses a true incubation, it follows that if a man be exposed to the two poisons at once, the soft local sore will first appear, and will run its course during the incubation of the other, and that we may thus have a soft sore, which becomes hard before it heals, from the action and development of the true syphilitic element. Instances of this are not very uncommon; and the converse may equally happen, whenever a patient labouring under an indurated chancre exposes himself to the virus of the local soft sore. If the poisons produce their results in close proximity one with another, we can then watch these separately and mark the contrasts in their characters; but if one and the same abrasion be inoculated with both poisons, from exposure to one or many sources of contagion within a limited period of time, then, we have the two diseases existing together, or one succeeding the other, on the same spot. So that if we see the common, soft form of sore, we can positively pronounce it to be, so far, a local disease; frankly telling our patient at the time, however, what is the interval before any syphilitic poison would declare itself and the characters by which it may be known. If there be no such appearances afterwards we can most surely guarantee the local nature of the disease.

So long, however, as we had to depend upon our observation of cases contracting the diseases in the ordinary way, we might never, perhaps, have demonstrated the fact of this double inoculation; but this has now been effected by artificial inoculation. Under ordinary circumstances, these occurrences were, of course, strongly suggestive of a variety only in the processes and the unity of their cause, and so long was Nature apparently giving the contradiction to all our distinctions between the infecting and non-infecting forms of sores. Now, however, a specific induration has been inoculated with the pus of the soft ulcer, a pustule has formed, and the characteristic soft sore has resulted. We will give a few examples of the two modes by which the occurrence has been traced. Take that related by M. Fournier (which was seen by M. Ricord) of a double inoculation in the natural way. A man was labouring under a chancre affected with cartilaginous induration. This suddenly began to ulcerate, and, coincidently therewith a large soft sore appeared on the skin of the penis. One of the indurated chain of inguinal glands inflamed and suppurated, and the pus from it was successfully inoculated. "Secondaries" subsequently appeared. Now, it was *proved* that this patient had contracted these soft ulcers from sexual intercourse with a woman suffering from the same affection, at the time he was under treatment for his indurated chancre. M. Rollet and his *interne*, M Laroyenne, have succeeded many times in producing the pustule and soft ulcer by the artificial inoculation of an indurated sore with the pus of soft sores. Instances of similar experiments may be met with in most of the recent works of Continental Syphilographers. Although the poisons and their manifestations are mixed, in so far as they both appear in the same locality, one does not destroy nor essentially modify the other: both follow their ordinary courses and preserve their characters. Nor is the subsequent manifestation of secondaries arrested or modified apparently by the induced ulceration of the chancre or the presence of suppuration in the groin. It is asserted even further, that it is possible to take pus from the artificially-produced pustule on the induration, or that of the bubo in the groin, and to produce a soft sore by inoculation on the same, or on another and healthy individual; that is, provided the secretion used be pure and unmixed with any blood.—*Med. Times and Gaz.*, Jan. 28, 1865.

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Communication of Syphilis through Catheterism of Eustachian Tube.—What we should here regard as almost impossible appears to be of not unfrequent occurrence in France; viz., the communication of syphilis through catheterism of the Eustachian canal. Several cases of the kind have already been related; one or two of them authen-

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ticated by M. Ricord M Lailler now records another carefully observed case, and gives full details of it; from which it would seem certain that the patient was affected with syphilis; that the disease arose subsequent to the frequent catheterism of the Eustachian tube for deafness; and that the catheterism was the cause of the infection. It really, as we have said, seems incomprehensible, that any aurist could be guilty of such a filthy and shameful act as using dirty instruments in cases of this kind; but we must record what seems thoroughly well authenticated facts.—*Brit. Med. Journ.*, Oct. 15, 1864.

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Conjuring and Animal Magnetism.—An anecdote is told in the *Union Méd.* which illustrates the correct reply when we are called upon to explain some of the feats of alleged animal magnetizers—viz., that these are equalled and even surpassed by those of avowed conjurors. At a recent *soirée* in Paris a celebrated *prestidigitateur* was amusing the company with his wonderful skill, when M. Tardieu, the Dean of the Faculty of Medicine, was announced. The conjuror was introduced to M. Tardieu just as he was excusing himself for being so late. "That is nowise surprising," was the reply, "for Monsieur has either been robbed of or lost his watch." M. Tardieu put his hand to his waistcoat, and sure enough there was his chain without the watch. This was in the conjuror's hand! How he could have detached it from the chain without M. Tardieu or the bystanders perceiving it quite passes explanation.—*Med. Times and Gaz.*, Jan. 28, 1865.

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Extraordinary Ordinance of Louis XIV. requiring Physicians to withhold their Services to Patients seriously ill, who refuse to be confessed.—In his recent report upon the position and relations of the Medical Profession, made by M. AMÉDÉE LATOUR to the French Medical Association, while adverting to the project of demanding additional Medical legislation at the hands of the ruling powers, he noticed incidentally a remarkable *ordonnance* promulgated by Louis XIV. towards the end of his reign, in which he menaced with deprivation any physician who, called to a patient suffering from a dangerous disease, neglected to apprise him of his danger, and to see that he was duly confessed by a priest.

The *ordonnance* as to confession was issued at the instigation of Cardinal Noailes, Archbishop of Paris, and bears date Versailles, March 8, 1712. The following are extracts:—

"We hereby declare and ordain as our royal will and pleasure that all Physicians of our kingdom shall hold themselves bound upon the second day of their visiting patients attacked by fevers or other diseases which by their nature may lead to death, to exhort them to confess, or to cause their family to give them this advice. And in the case that neither the patients nor their friends seem disposed to follow this advice, the Physicians shall hold themselves obliged to advertise the curate or vicar of the parish in which such patients dwell, and obtain a certificate from them to the effect that such advertisement has been given. Physicians are prohibited visiting these patients on the third day, unless the confessor has duly certified to them that such patients have confessed, or at all events that the confessor has seen them and prepared them for the reception of the sacramento. Physicians who have thus apprised the confessors of the residences of such patients, and are provided with certificates from them of their having done so, are at liberty to continue their attendance without incurring the subjoined penalties. We will that those Physicians who may contravene this our present declaration shall be condemned for the first offence to a fine of 300 *livres;* that for the second they shall be interdicted from all functions or practice during at least three months; and that for the third offence they shall be deprived of their degrees, their names erased from the lists of the faculties, and prohibited for ever from practising in any part of our kingdom."

In addition, it is stated that when the urgency of the case demands it, the patients must be urged to confess even before the second day. In the absence of physicians, surgeons and apothecaries are enjoined to perform this duty under similar penalties.—*Med. Times and Gaz.*, Dec. 31st, 1864.

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French Regard for Poland.—The Minister of Public Instruction has just made known to the rectors of the different faculties of the kingdom that by the Emperor's wish Polish students should be admitted to all Lectures without fees.

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"As the author has remarked on former occasions, it has ever been his ardent wish to make the work a satisfactory and desirable—if not indispensable—lexicon, in which the inquirer may search, without disappointment, for every term that has been legitimated in the nomenclature of the science; and he confidently presents this edition as having more claims on the attention of the practitioner and student than its predecessors.

"Once more the author gladly seizes the opportunity afforded him to express his grateful acknowledgments for the vast amount of favor which has been extended to the Dictionary."

January, 1865.

The object of the author from the outset has not been to make the work a mere lexicon or dictionary of terms, but to afford, under each, a condensed view of its various medical relations, and thus to render the work an epitome of the existing condition of medical science. Starting with this view, the immense demand which has existed for the work has enabled him, in repeated revisions, to augment its completeness and usefulness, until at length it has attained the position of a recognized and standard authority wherever the language is spoken. This has only been accomplished by the earnest determination to bring each successive edition thoroughly on a level with the most advanced condition of contemporary medical science, and on no previous occasion has this demanded a more patient and laborious effort than in rendering the present edition fully equal to the wants of the student of the present day, and in no previous editions has the amount of new matter introduced been so large. While, therefore, the reader who merely desires a vocabulary explaining the terms in common use can satisfy himself with the smaller works, such as Hoblyn's, the student and practitioner who wish a work to which they can at all times refer with unfailing confidence for all which it is the province of such a book to supply, must still, as heretofore, keep the latest edition of "DUNGLISON'S DICTIONARY" within reach.

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A few notices of the previous edition are subjoined.

This work, the appearance of the fifteenth edition of which it has become our duty and pleasure to announce, is perhaps the most stupendous monument of labor and erudition in medical literature. One would hardly suppose, after constant use of the preceding editions, where we have never failed to find a sufficiently full explanation of every medical term, that in this edition "*about six thousand subjects and terms have been added*," with a careful revision and correction of the entire work. It is only necessary to announce the advent of this edition to make it occupy the place of the preceding one on the table of every medical man, as it is without doubt the best and most comprehensive work of the kind which has ever appeared.—*Buffalo Med. Journ.*, Jan. 1858.

A Medical Dictionary better adapted for the wants of the profession than any other with which we are acquainted, and of a character which places it far above comparison and competition.—*Am. Journ. Med. Sciences*, Jan. 1858.

A complete and thorough exponent of medical terminology, without rival or possibility of rivalry.—*Nashville Journ. of Med. and Surg.*, Jan. 1858.

The work is a monument of patient research, skilful judgment, and vast physical labor, that will perpetuate the name of the author more effectually than any possible device of stone or metal. Dr. Dunglison deserves the thanks not only of the American profession, but of the whole medical world.—*North Am. Medico-Chir. Review*, Jan. 1858.

Good lexicons and encyclopedic works generally, are the most labor-saving contrivances which literary men enjoy; and the labor which is required to produce them in the perfect manner of this example is something appalling to contemplate. The author tells us in his preface that he has added about six thousand terms and subjects to this edition, which, before, was considered universally as the best work of the kind in any language.—*Silliman's Journal*, March, 1858.

It is universally acknowledged, we believe, that this work is incomparably the best and most complete Medical Lexicon in the English language. Comment and commendations are unnecessary, as no one at the present day thinks of purchasing any other Medical Dictionary than this.—*St. Louis Med. and Surg. Journ.*, Jan. 1858.

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VOL. XXIII. APRIL, 1865. No 268.

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CLINICS.

CLINICAL LECTURES.

Two Lectures on the Laryngoscope. Delivered at the Royal College of Physicians By GEORGE JOHNSON, M. D., Prof. of Med. in King's Coll. (Concluded from p. 37.)

Amongst the most ingenious results of the use of the laryngoscope has been the clear light which it has thrown upon the *causes of hoarseness and aphonia.* These are very various, but they have usually this in common, that they in some way interfere with the close apposition or with the free vibration of the vocal cords. I will briefly refer to some of those which I have myself seen.

A wart, the size of a large pea, between the anterior insertion of the cords had rendered a man hoarse for seven years. This occurred in a patient of Dr. Morell Mackenzie, and I saw Dr. Mackenzie remove the wart very skilfully by means of his forceps. In another case, a tumour the size of a split pea projected from the left cord inwards towards the opposite cord.

In several cases the true cords have had an uneven granular surface. In some the natural white colour has been retained, but in others the surface has been of a dull red colour.

Lately Dr. Tyler Smith sent me a mechanic who had been hoarse for twenty years. He had taken medicine incessantly for the first ten years, with the effect of injuring his health, but without improving his voice. The cause of the aphonia in this case is a warty excrescence covering two-thirds of the length of the right vocal cord. The left cord, too, is somewhat uneven and granular. This patient tells me that he has repeatedly coughed up small seed-like particles from his throat. These have probably been portions of the warty growth forced off by the effect of coughing.

A gentleman has been hoarse for many years, since suffering from syphilitic disease of the larynx. In this case the right vocal

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cord, near its middle, had evidently been divided by an ulcer. The divided ends of the cord are thickened and nodulated, and there is a great gap in the glottis when he vocalizes.

A frequent cause of hoarseness and aphonia in different degrees is swelling of the so-called false cords to a sufficient extent to fill the ventricle of the larynx. The swollen mucous membrane presses on the true cords and damps their vibrations. This is the condition of the larynx which is most commonly found in cases of inflammatory sore-throat with hoarseness. These are, in fact, cases of mild laryngitis.

A less frequent cause of hoarseness is thickening and swelling of the inter arytenoid fold of mucous membrane. This prevents the approximation of the cartilages and the closure of the glottis.

In cases of *tubercular ulceration of the larynx*, many of which I have examined with the laryngoscope, there is usually much swelling, and often ulceration, of the mucous membrane at the sides and back of the larynx; and this sufficiently accounts for the hoarseness which is commonly present. Less frequently the true cords are thickened and ulcerated.

I have before mentioned the case of a man who had aphonia from paralysis of the laryngeal muscles, the result probably of pressure on the recurrent nerves by cancerous disease in the chest. Also a case of aneurism of the aorta, in which, amongst other symptoms, there was hoarseness from pressure on the recurrent nerve.

The cases of *hysterical or nervous aphonia* constitute another interesting class. In these cases we find, on examination, that the larynx appears in every respect quite normal, except that during attempts at speaking the glottis does not close; the patient whispers through a widely open glottis. It would appear that the power of closing the glottis is for the time quite lost. There is never any stridor during deep inspiration, for the open glottis does not resist the entrance of the air. These patients not only cannot speak, but they cannot cough or "hem;" for all of these acts require that the glottis should first be closed. Another interesting feature of these cases is the suddenness with which the voice often returns, and often too, is again lost, to the disappointment of the practitioner, who is disposed to boast of having effected a permanent cure.

There is yet another class of cases—cases of the so-called *clergyman's sore-throat*, or *dysphonia clericorum*. These are not all of the same character. In some there is permanent hoarseness or thickness of voice. In these we usually find redness and thickening of the mucous membrane, which may be general or partial. In one case, which I have lately seen, the right vocal cord is of a dull-red color, and its surface is roughened. In other cases there is no hoarseness or dysphonia, except after a sustained effort of speaking; then there is a sense of fatigue and uneasiness in the throat, which may be so great as to render a continuance of the effort impossible, and the speaker breaks down in the middle of his discourse. In cases of this kind we commonly find only a slight increase of vascularity and redness in the mucous membrane of the larynx. This evidently does not account for the phenomena of the disease, to explain which we must look below the surface which is reflected in the mirror. On inquiry into the early history of the disease, we frequently find that it began with an attack of inflammatory sore-throat and hoarseness; and we learn that, either from heedlessness or from necessity, the patient continued his preaching and reading—in short, he continued to exercise an inflamed and suffering organ. After a time the hoarseness passed away, but the painful sense of fatigue with long speaking remained. The probable explanation is, that the nutrition of the laryngeal muscles has become impaired through the extension of a morbid action from the inflamed mucous membrane Such extension of disease is very likely to be provoked by much exercise of the voice when the lining membrane of the larynx is in a state of inflammation. And the practical inference from this doctrine is obvious; that an inflamed larynx, like an inflamed joint, should be left as much as possible at rest.

We have something analogous to what I have here described as happening to the laryngeal muscles in the impaired nutrition and loss of tone of the muscular fibres of the intestine, consequent on inflammation of either the serous or the mucous coat.

A French physician, Dr. Fauvel, has recently published a pamphlet entitled "Aphonie Albuminurique." The author states that aphonia from œdema of the larynx is a common result of Bright's disease of the kidney, and he speaks of it as occurring

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frequently without any other sign to excite a suspicion of the renal disease. It appears to me that Dr. Fauvel has considerably over-estimated the frequency and the importance of œdema of the larynx as a result of Bright's disease. In this country it is one of the rarest of the many complications of that malady. Some months since a woman under my care at the hospital with general dropsy from chronic Bright's disease had hoarseness and great dyspnœa. It was a point of some practical importance to ascertain whether the dyspnœa was a result of obstruction in the larynx. The laryngoscope showed sufficient œdema of the false cords to cause the hoarseness, but certainly not enough to obstruct the breathing. The dyspnœa was a result of pulmonary engorgement and œdema, and therefore would not have been relieved by tracheotomy.

In several of the cases to which I have referred it will have been seen that the information which the laryngoscope afforded as to the precise morbid condition of the larynx was of great value in indicating the appropriate plan of treatment. Now, this is a point upon which I feel bound to insist very emphatically; that the treatment of laryngeal disease has by the aid of the laryngoscope been placed upon an entirely new basis —the solid basis of an exact diagnosis. How often in past times has the treatment for laryngitis been applied when the laryngeal affection has been of a purely spasmodic character?—and how much more frequently when the symptoms of a supposed laryngitis were the result of a warty, or cancerous, or other tumour in the larynx!

Shortly before I had learned to use the laryngoscope I was attending, with Mr. Christopher Heath, a lady about fifty years of age who had suffered for several weeks from symptoms of laryngeal disease—hoarseness, cough, noisy and laborious inspiration. For several days we treated the case as one of laryngitis. Day by day the dyspnœa became more urgent, and at length tracheotomy was performed. She continued to breathe through the tube until her death, which occurred five months afterwards. The disease was cancerous: a cancerous tumour completely filled up the glottis. We should have seen this easily enough with the laryngoscope. And having seen it, we should have given fewer drugs, and we should have been spared much painful doubt and perplexity as to the necessity for tracheotomy.

The effect of a misapplication of antiphlogistic remedies in cases of this kind is not only mischievous to each individual patient who is the subject of the erroneous treatment, but the practitioner's confidence in himself and in his remedies must of necessity be lessened by witnessing their repeated want of success. I suppose it to be very generally admitted that the most certain plan for cutting short an attack of acute catarrhal laryngitis—laryngitis, *i. e.*, from exposure to cold, and not the result of any specific poison or of a constitutional diathesis —the most certain plan, both in adults and in children, consists in the administration of nauseating doses of ipecacuanha or antimony, with hot baths and the inhalation of steam; the object being to *sweat* both the skin and mucous membrane, and so to lessen the inflammatory congestion and swelling within the larynx. These remedies, directed against a wart, or a cancerous tumour, or the cicatrix of a syphilitic ulcer, will fail to do good; and if the error of diagnosis be not discovered, to some extent our confidence in the plan of treatment for acute laryngitis must be lessened.

One good result of the use of the laryngoscope will be, that henceforth fewer drugs will be consumed in cases of laryngeal disease, and those which are given will be administered with a more definite object and with a truer aim than heretofore. This in itself would be no slight gain, but the laryngoscope does more than this; it opens the way to methods of local treatment which, without its aid, would have been impossible and inconceivable.

Perhaps the greatest triumph of treatment by the aid of the laryngoscope has been the removal of tumours, polypi, and warty growths from the interior of the larynx. This feat has been accomplished now in numerous cases, and with the most satisfactory results. On the table are a variety of instruments that have been used by different operators; amongst others, Dr. Mackenzie's forceps made by Krōhne, and Dr. Gibb's écraseur, by Weiss. The one seems better adapted to remove warty growths; the other, pedunculated tumours. Dr. Walker, of Petersborough, was the first who in this country succeeded in removing a tumour from the larynx by means of a wire.[1] In all operations for the removal of

[1] The Lancet, vol. ii., 1861, p. 444.

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tumours the instrument is guided to the exact site of the tumour by the aid of the laryngeal mirror, which is held in the left hand of the operator.

In some cases of inflammatory swelling and œdema of the interior of the larynx, *scarification* is of great service.

I have already mentioned one case in which puncturing the mucous membrane rapidly reduced an œdematous swelling over the arytenoid cartilages. Here is a very convenient scarificator made under the direction of Dr. Morell Mackenzie by Messrs. Krōhne. It will be seen that the point of the instrument is guarded by a metallic tube until it is pushed out by a lever.

One of the most splendid illustrations of the good which may result from scarification of the larynx was afforded by a case which Mr. Durham lately communicated to the Royal Medical and Chirurgical Society.[1]

A boy, eleven years of age, was admitted into Guy's Hospital, under the care of Dr. Wilks, on June 10th, 1863. He had for three years suffered from gradually-increasing impairment of voice, and difficulty of breathing and swallowing. On admission all the symptoms were very severe. During the night of the 14th he was seized, as he had previously been on several occasions, while asleep, with a very severe attack of dyspnœa. Tracheotomy was on the point of being performed, but was delayed by the desire of Dr. Wilks, and on the following morning Mr. Durham was requested to make a laryngoscopical examination. On doing so, the epiglottis could not be distinguished in its normal form, but instead there appeared a large round tense tumour, projecting backwards and downwards, and completely covering in and concealing the glottis. The tumour could be just reached by the finger. Feeling certain that it contained fluid, Mr. Durham, with the concurrence of Dr. Wilks, incised it with a long, curved, sharp pointed bistoury, covered except at its point with sticking-plaster. The incision was followed by a sudden gush of thick glairy mucus mixed with a little pus and blood. All the patient's symptoms were at once relieved, and in the evening he was singing in his bed. In the course of a few days he was perfectly well. When examined four months afterwards he was in every respect well. There was no appearance of the cyst, but the cicatrix of the incision was just visible on the lower part of the laryngeal aspect of the epiglottis.

In many cases of laryngeal disease the application of *caustics* and *astringents* is very beneficial. There are various modes of applying these remedies. The safest and most convenient mode of applying solid caustic—to a syphilitic ulcer, for instance—is that employed by Dr. Mackenzie. An aluminum wire, bent at a proper angle, has its end covered with a small bulb of nitrate of silver by being repeatedly dipped into the fused salt. A solution of nitrate of silver may be injected by a laryngeal syringe with a finely perforated nozzle, such as is used by Dr. Gibb, and made by Messrs. Weiss. I have frequently used this syringe, but I find that this fine shower of a solution of nitrate of silver causes much more spasm and distress than the application of the same solution by means of a brush fixed on a bent whalebone or on a bent wire.

Glycerine is a very convenient and useful vehicle for various local applications to the larynx. It is an excellent solvent for tannic acid. Tannic acid may be dissolved in glycerine in the proportion of two drachms to an ounce. This is a very useful topical astringent. Glycerine will also, by the aid of heat, dissolve as much as one-fifth of its weight of hydrochlorate of morphia. We seldom require so strong a solution as this, but a moderately strong solution of morphia in glycerine is a most useful soothing application in cases of irritable larynx. Glycerine, as a vehicle for other remedies, has this advantage, that being viscid, it adheres to the surface of the mucous membrane, and retains there the astringent or the sedative which it holds in solution. On this account it may very usefully be mixed with a solution of nitrate of silver. A mixture of glycerine with a solution of perchloride of iron is a useful topical astringent. Glycerine may also be made the vehicle for *alum*. Whenever glycerine is appplied to the larynx it must be done by means of a brush; it is too thick a liquid to pass through a syringe.

Amongst local applications to the larynx I may mention that Dr. Mackenzie has successfully applied *electricity* in some cases of nervous aphonia. By means of a simple in-

[1] The Lancet, vol. ii., 1863, p. 593.

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strument one pole of a magneto-electric machine is applied to the interior of the larynx, the other to the skin of the neck outside. The sudden shock excites a spasm of the laryngeal muscles, and this often restores the voice. A strong solution of caustic applied to the larynx has sometimes had the same effect. And in other cases of this kind a sudden and violent mental emotion, whether joyous or painful, has immediately brought back the voice.

Having said thus much of the local remedies for laryngeal diseases, and having shown, as I trust, that I am not disposed to undervalue them, I yet feel it a duty to remark upon the possibility that the larynx may get too much of local treatment. The laryngoscope has brought this organ so completely within our reach that we are all exposed to the temptations of being too meddlesome. We may be too apt to forget that a structural disease, strictly limited to the larynx, may yet be constitutional in its origin, and require a plan of treatment based upon the recognition of that fact. If we can avoid the error to which I have here alluded, the introduction of the laryngoscope will be an unmixed good both to ourselves and to our patients, and it will soon be acknowledged to be one of the most valuable additions that have ever been made to our means of diagnosis and treatment.—*Lancet*, July 30th, 1864.

HOSPITAL NOTES AND GLEANINGS.

Operation for Extroversion of the Bladder.—Two of these operations have been performed at the Hospital for Sick Children, by Mr. Holmes. The first took place on March 21, 1863, and was described by Mr. Holmes in the *Lancet* for June 27, 1863. Mr. Holmes had the advantage at the operation of the presence and assistance of Mr. Partridge, of King's College Hospital It is believed to have been the first case of this kind in which the operation has been performed successfully in England; in fact, the first in which complete success has been obtained, since in Dr. Ayres' case, operated on in New York in 1859, the success does not seem to have been quite perfect, and in Dr. Pancoast's case, operated on in Philadelphia, though ultimate success appeared probable, the patient died of another disease before the treatment was complete.

In Mr. Holmes's first case, the patient was a boy, aged 9, otherwise well formed and healthy. There was no hernia. The operation consisted in taking a square flap out of the groin, with its base towards the exposed mucous surface of the bladder, and turning it back over the latter, with its raw surface upwards. This first flap was then covered by a second, taken from the opposite side of the scrotum, and twisted slightly so as to be over the former flap, with its raw surface in contact with that of the first flap. The two flaps being united by silver sutures at their upper and lower edges, kept each other in place, and formed a broad bridge of healthy soft parts over the exposed bladder. The upper edge of this bridge was then implanted into the skin of the abdomen, which was pared to receive it. The wound was not dressed in any way whatever, nor was any attempt made to hinder the contact of the urine with the raw edges, previous experiments having shown that such attempts were more likely to do harm than good. All went well, except that the part where the bridge had been implanted into the abdomen failed to unite. Two subsequent operations, however, obtained complete union of this part, by a firm and healthy cicatrix, in which only an opening remained through which an Anel's probe could be passed, but through which no water seemed to exude, and which, therefore, was not thought worth treatment. The boy was perfectly relieved of all the distressing complications of his infirmity, except the constant dribbling of water so that a common railway urinal kept his clothes clean and free from odour.

He died about a year after the operation of the growth of a tumour, apparently of the fibro-plastic variety, in the brain. The parts concerned in the operation were shown at the Pathological Society (Pathological Society's *Transactions*, xv. 254), and are preserved at the Hospital, together with accurate drawings of the case before and after operation, by Dr. Westmacott.

The general idea of this plan of operation was suggested by a case reported by M Follin in *L'Union Médicale*, Sept. 10, 1862.

Mr. Holmes repeated a similar proceeding on a male infant aged a year and a-half on May 20, 1863. In this case there was hernia on one side. The operation differed from that in the previous case, in the fact that no attempt was made to implant the

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bridge into the skin of the abdomen at the first operation. This first operation was perfectly successful, and a bridge of healthy skin was obtained to cover the exposed bladder. A first attempt to implant this into the skin of the abdomen did not succeed, and the child was being kept in the Hospital, in order that a second might be made, when he was attacked with typhoid fever. The case seemed to be going on well, and he might have recovered, but that his friends insisted on taking him home, a considerable distance into the country. He died a few days after reaching home. This case may be said, like Professor Pancoast's, to have been successful as far as it went.

Mr. Holmes has also operated on two cases of this malformation at St. George's Hospital, the plan pursued being the same as in the last mentioned operation. Neither cases had any success, though in neither did any injury result. In one the patient was a man about 21 years of age, an agricultural labourer, of ruddy complexion and fair proportions. He was most anxious to submit to anything which would lessen his sufferings. He was the subject of a very large hernia on both sides, the skin covering which was so thin that much care was requisite in dissecting flaps off it, and when formed they were very deficient in fat and cellular tissue. Nevertheless, the first operation seemed likely to succeed, when unfortunately a short time after the sutures had come away, phagedæna attacked the raw edges, and the union melted down. Some weeks afterwards the proceeding was repeated, reversing the sides, but with no better result. Another attempt was afterwards made by uniting the remains of the flaps over the median line; but it also failed, and the man was sent home, having been provided with the usual cumbrous and inefficient apparatus.

In the fourth case, the patient was a little boy about 7 years of age, in very weak health. In him also the deformity was complicated with large hernia on both sides. The operation failed, and it was thought better not to repeat it until the general health was more satisfactory. In both these unsuccessful cases, the cicatrization induced by the operation in the groin and scrotum appeared to be of some service in diminishing the size of the hernial tumours.—*Med. T. and Gaz.*, Feb. 4, 1865.

Cases of Continued Fever exhibiting Spinal Symptoms.—The peculiarity which Dr. Ogle noticed especially on reviewing the entire list of fever cases which came under his care at the St. George's Hospital, was the frequency of the occurrence of what are termed spinal symptoms, as contradistinguished from cerebral symptoms. This was in very many cases manifested quite at the commencement of the case by the existence of intense pain at the lower part of the back, very much reminding one of the complaint so often made by patients in the early stages of smallpox. It was in several cases declared by the great sensitiveness of the skin of the body, which was perfetly hyperæsthetic. This was so much the case in one woman, Susannah J., aged 28 (admitted on the ninth day of the fever), who was throughout remarkably deaf, and who had been much neglected, that she could not bear to be touched in any part of the front of the chest; so that Dr. Ogle had the greatest difficulty in stethoscoping her. She was also remarkable for extreme pains in the legs, which were quite free from swelling, etc., in any part; and she had a conspicuous red line along the gums. She quite recovered. In another patient, a girl, aged about 19, the illness had begun with such acute pains about the knees and ankles that she was sent into the Hospital by a Medical man as suffering from acute rheumatic fever. In a boy, Augustus F., aged 15, the pain for several days was acute in the middle of the dorsal region, especially on pressure; the other parts of the spine, and also the flanks, were quite free from pain. This boy always for many days complained of feeling giddiness in the head whenever he closed the eyes voluntarily.

In one man from Westminster, Thomas S., aged 40, who died four days after admission, and who had been much neglected, having well-marked maculæ in the skin, there was, when first taken in, so much irregular spasmodic movement of the limb that he was thought at first sight to be suffering from choreic symptoms. In his case the urine contained much albumen.

But the case in which most of all the spinal symptoms were developed was that of Anne W., aged 18, from Chelsea, a short, fair, and well-made girl, who, eight days after admission, complained much of pain over the region of the bladder, although

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at that time her aspect and pulse were much improving. Two days later she could not be kept quiet, and sat up picking the bed-clothes, and often trying to get out of bed. In the evening the head was noticed as being drawn back in a singular way; and on the day after, the muscles of the neck were remarkably rigid, and the head was so far and so firmly drawn back that breathing and swallowing were very greatly interfered with. Still the picking of the bed-clothes went on. During this time the whole surface of the skin was exceedingly sensitive to the touch. She died three days after the extreme restlessness and the tetanic state of the muscles set in; but unfortunately post-mortem examination could not be obtained. This woman lost a brother and some other relation by fever about the same time; but in them there was no manifestation of the spasmodic state of the muscles.—*Med. T. and Gaz.*, Jan. 14, 1865.

[The case of Anne W., above reported, seems to us to be a well-marked example of the epidemic cerebro-spinal meningitis, which has been prevailing in this country, and we may therefore, if we are correct in this view, expect to hear of more cases of the same description in England.]

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

American Medical Association.—The Editors of the *Boston Med. and Surg. Jl.*, in noticing (Feb. 2 1865) the approaching meeting of this body, observe:—

Two measures should be insisted upon, which, if faithfully observed, would, we are convinced, in a year at farthest, do much to restore the Association to the rank and respect it should occupy. The first and chief of these is a more careful selection, and a diminution in the number of delegates sent. Improper representation has been the bane of our popular system of national legislation, and to this same cause must be laid, we fear, most of the shortcomings in the conduct of our Association. We should say that the number usually chosen should be reduced at least two-thirds, and that the selection should be most carefully made by a committee appointed for this purpose by the various bodies represented. Such a reduction would not diminish the attendance upon or interest in the meetings, for admission and the voluntary presentation of papers is of course open to all. This is the work now before the hundreds of district medical societies throughout the country, and we trust that they will approach it with a proper sense of the consequences of their acts. Let us once secure an honourable and eminent representation from all parts of the land, and the election of a fit board of officers and the appointment of the most thoroughly-educated and competent men in the various committees or sections follow as matters of course. Guzzling and sight-seeing will then be kept in their subordinate place, and delegates will not return home, to tell of the number of entertainments they have enjoyed and of their entire ignorance of everything which has occurred in council. The other measure is not of so much importance at this time, inasmuch as it must come before the Association itself to be acted upon. It is, however, one of vital interest. We refer to the delay which prevails in the preparation of the reports from year to year. No gentleman should accept such a task unless he is willing and able to accomplish it, and it should be understood that nothing but illness should be allowed as an excuse for his failure to do so.

University of Pennsylvania.—The number of medical students at the past session was 425. At the annual commencement of the 11th of March the degree of M. D. was conferred on 117 candidates.

Jefferson Medical College, Philadelphia.—The catalogue of this Institution contains the names of 380 students attending the courses of lectures during the session of 1864-65. At the Annual commencement, held on the 10th of March, the degree of M. D. was conferred on 136 candidates.

Ohio Medical College (Cincinnati).—At the annual commencement of this Institution, held on the 2d of March, the degree of M. D. was conferred on 46 candidates.

Rush Medical College (Chicago)—At the annual commencement of this school on the 25th of January, the degree of M. D. was conferred on 108 candidates.

Appointments.—Prof. ALFRED STILLÉ has been elected one of the Physicians to the

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Philadelphia Hospital. Dr. J. Da Costa has been elected one of the Physicians to the Pennsylvania Hospital.

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The Philadelphia Hospital.—From the Annual Report of the Medical Board at Blockley Almshouse, recently submitted to the Guardians of the Poor, it appears that during the year 1864, 5,815 cases were treated, 3,455 were cured, and 532 died. The number remaining is 555. A large number of cases were also prescribed for in the different Wards. The clinics, it is stated were never so well attended. The clinical room, though one of the largest in the city, is not sufficient to accommodate the students in attendance.

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The Almshouse.—The population of the Philadelphia Almshouse is 3,002, an increase of 329 over the same period last year. Of the whole number, 1,298 are males and 1,704 females. During the past two weeks 184 were admitted.

—

Parrish's Treatise on Pharmacy.—This work is very favourably noticed in the London *Med. Times and Gaz.* (Jan. 14, 1865). The Reviewer remarks:—

"Its peculiarity and its value to the English reader will be its suggestiveness, by means of the view which it gives of American pharmacy, drugs, and modes of prescribing. There is no doubt but that the Americans are a singularly ingenious people, possessing great power of creating modifications of mechanical forces; they are also little tied down to routine, fertile in new combinations of old drugs, and possessed of a great magazine of new ones in the almost inexhaustible botanical stores of their broad continent. Hence the English pharmaceutists should possess this book, not merely to know how drugs are manipulated over the water, but likewise what drugs are available. Moreover, the list of drugs in this work is limited only by our knowledge of the three kingdoms of nature, and not by the laws of any Pharmacopœia."

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The United States Dispensatory.—We are happy to see it stated that the twelfth edition of this great work is rapidly approaching completion.

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Philadelphia College of Pharmacy.—The class during the past session nnmbered 106. At the annual commencement on the 11th March last, a degree was conferred on 28 candidates.

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Medical Specialties and Advertising.—At the annual meeting of the New York State Medical Society, the following resolutions relative to the propriety of medical practitioners advertising their specialty in the medical or other journals were passed:—

"*Resolved*, That in the opinion of this Society it is impossible to define the limits of medical specialties, either in medical or other journals.

"*Resolved*, That advertisements indicating location and residence are the utmost limits of self-announcements, consistent with professional dignity; and that all reference to special branches of medical practice, as extra inducements to patronage, should be deemed violations of the Code of Medical Ethics.

"*Resolved*, That hereafter any medical practitioner so offending shall be deemed disqualified as delegate to or for membership of this Society, and if already a delegate to, or a member thereof, shall be deemed a fit subject for discipline.

"*Resolved*, That this Society recommends all Medical Societies in the State of New York to adopt the foregoing resolutions. with a view to establish the true dignity of our profession.

"*Resolved*, That the foregoing resolutions be transmitted to the American Medical Association at its next meeting, as an expression of the opinion of the Medical Society of the State of New York, and that for this purpose a committee of presentation be appointed."—*Boston Med. and Surg. Journ.*, March 2, 1865.

FOREIGN INTELLIGENCE.

Lesions caused by Excessive Smoking. At a meeting of the Harveian Society of London (Nov. 17, 1864) Dr. Drysdale stated that he thought that tobacco smoking certainly tended, if not counteracted by other hygienic habits and a tough constitution, to produce several very disagreeable symptoms. He had recently remarked cases of jaundice in healthy young men, evidently produced by great smoking, such as three-quarters of an ounce to an ounce of tobacco a day. He had also under his care a young

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man with distressing palpitation of the heart, which the patient dated from his habit of smoking half an ounce of tobacco a day. Profuse smoking, he believed, tended to lower all the appetites, whether for exercise, food, or sex; in other words, to lower vitality. Mr. CURGENVEN observed that dyspepsia and palpitation of the heart were among the most common consequences of excessive smoking. A gentleman from Havana, a patient of his, an excessive smoker, who never had a ciger out of his mouth, had one day an attack of syncope, which he had attributed to smoking many cigars on an empty stomach. He was advised to take an early lunch and coffee after dinner. A medical friend of his had suffered greatly from nervousness and great dyspepsia, owing to excessive smoking. He left off the habit and recovered.

Mr. WREDEN COOKE observed that tobacco smoking affected different persons very differently. Smoking had its beneficial, as well as its deleterious effects. It certainly subdues sexual feeling; and parents, he thought, need not find too much fault with their sons for smoking, as it often kept their desires more under control. He thought, however, that a woman was quite right to insist that her future partner should not smoke much. Many gentlemen from thirty to thirty-five came to him, complaining of impotence; and he had generally found them to be profuse smokers. Literary men were sometimes benefited by smoking, since the brain-irritation prevented their eating, and smoking might prove a sedative. In fine, he supposed tobacco, like opium, was a useful drug in some cases; but, like opium, liable to do injury when taken in excess.

The PRESIDENT said excessive smoking caused nervous diseases, conjoined with dyspepsia and deranged liver. One cigar would often be serviceable, as a promoter of peristaltic motion, whilst many would produce derangement of the intestines. Dilated pupil and amaurosis were caused, he believed, by great smoking; and in a case he had lately sent to an eminent oculist, the ophthalmoscope had shown that gentleman that the disease was caused by the habit.

Dr. ROYSTON mentioned the case of a ship-chandler in Liverpool, an excessive smoker, who had acute inflammation of the liver after an excessive bout of smoking; also the case of a clerk on the Great Western Railway, who never had a pipe out of his mouth, and who had fallen into a fit of intense prostration and died, Dr. Royston believed, in consequence of his profuse indulgence in smoking. No *post-mortem* lesions were found.—*British Med. Jl.*, Dec. 24th, 1864.

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Pregnancy or Ovarian Disease.—A circumstance has lately occurred in Ireland which has caused a good deal of "talk." A married female, mother of three children, presented herself to an hospital surgeon, and stated that for a *a year and a half* she had observed a gradually increasing abdominal tumour, which gave her annoyance and interfered with her health. She was received into hospital, and after some weeks' residence the tumour was pronounced *ovarian*. She was considered a favourable case for operation; but previous to such a remedy a consultation was called. There were a goodly number of medicos present, and among them "professors" and "clinical teachers." After due examination of the patient, some thought immediate operation and some deferred interference advisable. The latter view was adopted, and in a few nights after the consultation the intended operator was suddenly summoned to the woman's bedside, when lo! nature had *operated* in relieving her of a *five months' fœtus!* It would seem that her husband *had been absent* some two years, and the tumour annoying her, she laid her plan for being *legitimately*, and, on *sound* principles, free from her burden, and she *succeeded!*—a caution as to a correct diagnosis being formed in abdominal tumours. It is stated that particulars will appear in the transactions of a medical society.—*British Med. Jl.*, Dec. 24th, 1864, from *Dublin Medical Press.*

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Removal of Uterus and both Ovaries.—M. KŒBERLE, the most successful of French ovariotomists, has published two works on the subject which we have not seen, but which are reviewed in the *Medical Times and Gaz.* (Feb. 25, 1865). We extract from that notice an account of one of his cases with the reviewer's remarks.

"The sixth case is the ope in which the uterus and both ovaries were extirpated. A strong, nervous woman, 31 years of age,

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had been married six years, and dated the commencement of her troubles from a miscarriage which occurred soon after the marriage. She soon observed a tumour in the abdomen, and she consulted many medical men as to its nature, which, however, still remained doubtful. For two years before the lady came to M. Kœberlé the tumour had increased rapidly, until at length it reached several inches above the umbilicus. Menstruation continued normal and regular, and the general health was very satisfactory. The patient, however, wished her tumour removed, and M. Kœberlé determined to operate. The tumour was found to consist of a fibroid outgrowth from the fundus of the womb: the pedicle was tied, and the tumour excised. It then appeared that there was a little fibrous nodule in the substance of the womb, and that the right ovary was somewhat larger than its fellow. M. Kœberlé therefore transfixed the cervix uteri, and tied doubly with iron wire in such a way as to embrace the ovarian vessels in the ligature. The whole of the womb and both ovaries were then removed. The ordinary treatment with ice, perchloride of iron and drainage tubes, was adopted, and the patient recovered.

"We do not pretend to judge whether M. Kœberlé ought to have been contented with removing the tumour, or whether he was justified in unsexing the patient. His own defence of the major operation is, however, so good that we translate it literally, only premising that, according to M. Kœberlé's own showing, the simple removal of the tumour was a very much easier and safer operation than the other. At page 92 he says:—

'The patient has been practically cured of her tumour, and effectually guarded against any relapse by the amputation of the uterus. She need no longer fear any of those infirmities, so frequent in women, which have their origin in the womb—such, for instance, as leucorrhœa, polypi, hemorrhage, prolapse. The extirpation of the ovaries, which had already been rendered useless by the existence of the large fibroid, which necessarily prevented the normal evolution of pregnancy, has relieved the patient of her menstrual periods, and of all the inconveniences connected with them, as well as from the diseases, which spring from the ovaries themselves.'

"As these arguments apply with equal force to the healthy female, we can only conclude that M. Kœberlé regards the whole sexual organization of the female as a mistake and a nuisance, which is to be removed at the earliest opportunity."

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Inoculation of Syphilis from the Discharge of a Secondary Sore, the Discharge being communicated from the Mouth of the Husband to the Wife's Cheek. Clinical Remarks.—The following very interesting and instructive case is given from notes by Mr. Anderson, the dresser of the patient:—

Catherine W——, admitted Nov. 16th, 1864, with an indurated, distinctly circumscribed swelling of the size of a five-shilling piece, situated immediately above the left angle of the mouth. It was of a reddish-purple colour in the greater part of its area, but had in the centre a patch of excoriation of the size of a shilling, but without any ulceration. Under the jaw of the same side several lymphatic glands were enlarged and indurated. She also complained of sore-throat, but there was no ulceration of the tonsils. These symptoms had lasted for several weeks before the time of her admission. She has been married eight years, but has had no children, and has not miscarried. Never had any primary sore. The pain in the face was very severe, and for this symptom she applied for relief.

Mr. Watson considered the swelling suspiciously like a chancre, and in consultation with Mr. Henry Smith expressed this opinion. It was, however, decided that specific treatment should be withheld until constitutional symptoms showed themselves, especially as the very severe pain in the part gave the appearance of the case being one of facial carbuncle.

The treatment adopted consisted of the administration of tonics and opiates; and this was continued with no improvement in the local condition for several weeks. The swelling increased in size circumferentially, and became somewhat more prominent, and softer in the centre; but no true ulceration occurred; and when punctured on Nov. 28th no pus was found, but the section presented a brawny character, as if infiltrated with fibrin, and very rapidly closed up by primary adhesion.

Dec. 14th.—Swelling increased in all directions: bulges forward in the centre, where there is indistinct fluctuation.

30*th*.—For the last ten days she has not

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presented herself. On inquiry it was found that she had been an in-patient at a large London hospital for a few days, where the surgeon under whose care she was placed proposed, according to the patient's account, to remove the tumour with the knife. At the same time she had been rubbing in mercurial ointment, and her gums are spongy and sore. An eruption of syphilitic lepra has come out on the face and body, and her tonsils are ulcerated. The swelling has increased in prominence, is softer, covered with pale, smooth, moist granulations. More direct questions were now put to the woman, and she stated that her husband was at present attending as an out-patient under the care of Mr. Henry Smith. He (the husband) was at once sent for, and Mr. Smith pointed out a secondary ulcer on the inside of the cheek, for which he had been under specific treatment some weeks past. This man denies having had any primary sore on the penis, but had a urethral discharge in June last.

Mercurial treatment continued up to the present date (Jan. 13th, 1865). The sore is diminishing in size rapidly in all its dimensions, and is cicatrizing at the edges. The eruption has disappeared.

The following clinical remarks were made by Mr. Watson:—

The diagnosis from facial carbuncle was somewhat difficult in the absence of any distinct history, and it was only the very circumscribed character of the induration and the bubo under the jaw which gave a suspicious aspect of syphilis to the case. The chain of evidence subsequently produced was unusually satisfactory, and this case alone would be conclusive as to the transmissibility of secondary syphilis. Mr. Henry Lee, who examined the patient at the Medical Society of London on the 9th January, and made a careful inspection also of the sore on the mouth of the husband, was perfectly satisfied of the nature of the case. The history and progress of the case are analogous to those mentioned by several recent authors.

A very interesting case bearing upon the question of the transmission of the poison through secondary inoculation was mentioned at the meeting of the Medical Society of London by Mr. Henry Smith. It was that of a gentleman well known to him, and who had a suspicious sore on the upper lip, which would not heal. Six weeks after the sore first appeared, a well-marked secondary eruption came out. The patient was placed under the influence of mercury, and he rapidly got well. This patient strongly denied any illicit intercourse, and there could be little doubt that the sore must have been produced from contact with a secondary ulcer on the tongue or lip of the female.—*Lancet*, Feb. 4th, 1865.

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Hypodermic Administration of Poisons.—M. Georges, at the Paris Society of Practical Medicine, gives an account of numerous experiments he had made of injecting poisonous substances into the cellular tissue, with the view of showing the far greater safety and certainty of the hypodermic method as a means of administering medicinally highly-poisonous substances. He injected quantities of codeine, atropine, and especially strychnine, which would surely cause death in the absence of precautions for preventing the too rapid introduction of the poisons. These injections were practised without danger in the dog's paw, the passage of the poison into the veins being checked by the forcible application of a ligature around the paw. To render the experiment still more striking, he resolved to employ injections of the most dangerous of poisons, curare, and M. Claude Bernard conducted them for him. A solution containing about five centigrammes of curare, and sufficient to kill more than fifty dogs of the size of the one operated upon, was injected into the paw, and in twenty minutes the animal fell on its side. The paw was now firmly tied, and at the end of about twenty minutes the animal arose. Whenever the ligature was loosened he again fell down, sometimes at the end of ten minutes, and sometimes in a shorter period, and in this way it became possible to dose with complete certainty, according to the effect desired to be produced, the quantity of poison to be absorbed. Next day the dog was found on his three paws, only suffering from the swelling caused in the fourth by the injection. The ligature was removed and he was soon all right. The same experiment performed on another dog was followed by the same results, the animal being caused to fall or rise at the end of five, ten, or fifteen minutes, accordingly as the paw was tied or untied. This dog, however, next morning, on the removal of the ligature, fell down again, all the poison not

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having had time to become eliminated by the urine, so that it was necessary to reapply the ligature. M. Georges points out the superiority of the endermic method when we have to administer powerful substances, as we may apportion the dose with an exactitude according to the tolerance of the disease and idiosyncrasy of the patient, quite unattainable when administered internally.—*Med. T. and Gas.*, Jan. 14, 1865.

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Virchow and the Cellular Pathology.—A correspondent from Berlin writes: Perhaps the most important thing I have to tell you is as to a recent change in Virchow's opinion regarding the cell theory. This change has been caused by the discoveries of Recklinghausen (*Virchow's Archives*, about a year ago) in the cornea. He has shown that the corneal cells have not special cell-walls, but are merely *spaces* between masses of intercellular substances. The nuclei in the angles he therefore considers *free*, and he says that many of them can move along the canaliculi from one angle to another. Moreover he says that the interior of these canals is continuous with that of the lymphatics; you can inject the lymphatics from them; so that, according to him, the origin of the lymphatics is to be found in the canaliculi of the so-called connective-tissue corpuscles. Then he says that the corpuscles of tendon and connective tissue are merely spaces with contained nuclei—a view which, of course, is *not new* to an Edinburgh man. Virchow admits all this; he admits that the corneal corpuscles are not cells. He seems rather reluctant to admit that those of tendon and connective tissue are the same, but he does not deny it; and he told me personally that he *now did not regard a cell-wall as an "essential part of the cell,"* as stated in Cellular Pathology; but that a nucleus surrounded by a molecular blastema was sufficient to constitute a cell; then he says that the outer part of this cell blastema consolidates and forms a cell-wall, as Beale has shown, and that this takes place in the amœba when placed in fresh water. This of course is a great triumph for Goodsir, who long ago was cautious enough not to say that the cell-wall is always present.—*Edinburgh Med. Journ.*, Feb. 1865.

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Entozoa in Veal and Beef.—Mr. John Gamgee, of Edinburgh, in a letter to the editor of the *Lancet* (March 4, 1865), states:—

"I have insisted for a long time on the great importance of having a skilful scientific man to investigate the diseases of animals slaughtered in the public slaughter houses of Edinburgh, but as yet no progress has been made in this direction. It is, therefore, impossible to assert or to deny that the Craigentinny meadows tend to the multiplication of parasites. Mr. Rawlinson, C.E., assured me some time since, that wherever sewage was conducted through drains on land masses of entozoa could be collected at the sluices, gratings, or where other obstacles could arrest the parasites, which invariably sink in diluted sewage.

"A strong case in favour of Dr. Cobbold's opponents is to be found in the well-known immunity amongst the Edinburgh people against attacks of cystic disease. Echinococci in man are certainly rare here; and we have less tapeworm than in many other towns. Birmingham, Wolverhampton, Manchester, and other manufacturing cities are well known as great centres for human parasitic maladies; and this is undoubtedly to be attributed to the extensive consumption of underdone animal food, and, especially, pork. The Scotch make more broths and soups, and thus effectually cook their food. Roasting bacon and roasting other meats are in great vogue amongst the hard-worked people of England; and there can be no doubt that the practice of eating food nearly raw prevails much more extensively south than north of the Tweed.

"I am quite sure that the cattle, sheep, and swine suffer as much from entozoic disease here as elsewhere, and the Edinburgh dairy cows are often found after death to have masses of echinococci and other cystic parasites in their internal organs, and especially in the liver. There are circumstances which tend to protect the cattle from parasitic germs which must, in considerable quantities, be distributed over the Craigentinny meadows. The grass is cut when long, and the current of sewage is diverted for some time from the plots being mown for daily consumption. Proper care is taken that the grass should be sweet, and rains may often wash it clean. I am aware that it is not prudent to trust to these fortuitous circumstances; and I think Dr. Cobbold was entitled, and called upon, to caution the advocates of very reckless schemes

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for sewage distribution as to some of the possible results of the practice. The disinfection of sewage on the Carlisle system would, I think, meet Dr. Cobbold's very proper objection.

"I have recently had occasion to examine the bodies of dogs that have been much about the Edinburgh slaughter-houses, and I find them invariably crammed with every kind of tapeworm which usually infests a dog's intestines. The enormous prevalence of parasitic diseases in animals indicates the great importance of having scientific inspectors of fresh animal food, and of furthering the study of helminthological science amongst students of medicine, whether human or veterinary. That trichina spiralis should be as common as it really is in the United Kingdom, and no cases of death from it yet recorded by British observers, is a conclusive proof in my mind of the little attention paid here to parasitic diseases. There is a very wide and almost unexplored field in the study of the distribution of entozoa amongst men and animals in this country; and the facts I gleaned three years ago regarding the prevalence of 'measles' amongst Irish pigs, afford an indication of how much could be done in the way of exterminating some of the entozoa. The roving cottage pig is often crammed with cysticerci, whereas the cleanly fed swine, confined in a proper sty, whether in Britain or Ireland, affords proof that Pat's saying, 'Every pig has its measle, has no foundation in fact."

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Obscene and Immoral Advertisements.—The *Lancet* of Feb. 18th, 1865, contains quite a long list of British newspapers the proprietors of which have determined for the future to exclude all objectionable advertisements.

"The force of example will," says the editor of the *Lancet*, "undoubtedly, be increased at the present moment by the circumstances that have enabled us to fix public attention upon this matter. Neither in town nor country will intelligent and respectable people fail now to note the difference between the papers which are 'clean' and those which insert the obscene advertisements elsewhere excluded. Papers which contain them are obviously unfit for admission into the household which includes amongst its members young people of either sex. We observe with satisfaction that the practice is likely to obtain, amongst journals which insert their terms of advertising, of heading them with the announcement that 'All quack and other objectionable advertisements are excluded.' Such an announcement is a strong recommendation for any paper. It is in this way that we may hope to see the enormous traffic annihilated which has been springing up of late years, solely nourished by the facilities afforded by general advertising, which has attained the dimensions of a national evil. Years must pass over even now before the evil impression produced by this incessantly active gang of scoundrels can be effaced. Ubiquitous, unscrupulous, and lavishing large sums that they might gain yet larger, they threatened to sap the moral and physical health of the youth of the kingdom. Some idea may be formed of the extent to which this nefarious traffic had grown, fostered by the opportunities afforded by the use of the advertising columns of the press, from the fact that by a recent calculation it appeared that upwards of £300,000 a year were expended in advertising by the persons engaged in carrying it on. A mortal blow is struck at this vicious trade, and a great good will be worked out, by the exclusion of the advertisements. We believe that public opinion will continue to assist us by demanding the purification of the advertising columns of all journals, without exception, destined for reception in respectable houses, or to be read by decent people. The publication of a 'black list' is an unpleasant task which we are loth to undertake, although urged by many to do so. We would fain hope that the right feeling and good sense of the conductors of the journals still polluted will induce them to range themselves on the side of public propriety, and to bend to public opinion. We are aware that in some cases questions of contract interpose difficulties, and we know also that many journals propose to make this change at the first opportunity, but are not willing to make any announcement until they are able to carry out the intention and present a respectable face to their subscribers. However, we know too that they lose more than they gain by such a want of moral courage; and the important journals which (in the North especially) have announced that they propose forthwith to exclude objectionable advertisements have received the most gratifying proofs of

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the satisfaction and confidence of their readers."

It will be seen from the following extract from the *Presbyterian* (March 11th, 1865), a religious newspaper published in this city, that the present proprietors of the *Public Ledger* of Philadelphia have determined to exclude all obscene advertisements. We fully indorse the encomiums of the *Presbyterian* on the honourable and unselfish course of the proprietors of the *Ledger* in this matter. We trust, and believe, that they will ultimately obtain their reward.

"The numerous advertisements of an immoral character, and designed to further immoral purposes and ends, which appear in the secular journals, are a great offence to all good men, and deserve public reprobation. It were well, indeed, if such advertisements were seen only in secular journals, and that professedly religious papers were free from this stain. We know that all publishers are liable to be imposed upon by sharp men, adroitly concealing the real character of their wares, for we have suffered once or twice ourselves; but a severe scrutiny should be kept upon the columns of all journals, religious and secular, and the responsibilities of editors and publishers should never be forgotten or disregarded. We are glad to notice the action of one influential secular paper, which is so entirely in the right direction that it deserves public and hearty commendation. The *Public Ledger*, of Philadelphia, has lately been purchased by Mr. George W. Childs, the well-known publisher, and he has determined rigidly to exclude all advertising of an immoral character. This, as all publishers of newspapers know, involves the loss of thousands of dollars annually; but the sacrifice has been cheerfully and nobly made. The whole list of vile medical advertisements which most secular papers contain, and many religious papers still publish, has disappeared from the *Ledger*, and its columns are without a stain. The resolute purpose of Mr. Childs is to keep them pure, and we honour him for his purpose and his action. We hope the Christian people of this country will not be indifferent to this movement, but will so sustain Mr. Childs as to induce other journals to follow his good example. Parents, especially, should scrutinize the papers which they admit to their households, and through which their sons and daughters learn more than they suspect of the mysteries and vice of our large cities. We are glad to be able to commend the *Ledger* as a journal which, in addition to its great value as a newspaper, has placed itself distinctly on the side of morality and public virtue."

The *Presbyterian* we have a right to infer, will pursue the same honourable course. We shall be glad from time to time to publish the names of such other journals as may follow these examples, when we have authority so to do.

—

Watering Plants with Iron.—It is stated as a new discovery that wonderful effects may be obtained by watering fruit trees and vegetables with a solution of sulphate of iron. Under this system beans will grow to nearly double the size, and will acquire a much more savoury taste. The pear seems to be particularly well adapted for this treatment. Old nails thrown into water and left to rust there will impart to it all the necessary qualities for forcing vegetation as described.—*Brit. Med. Journ.*, Jan. 7, 1865.

—

Medical Mortality.—Dr. Majer, in the *Bavarian Medical Journal* for September, 1863, combats the very common belief that poverty is conducive to long life. He quotes numerous instances, and sustains his position by referring to several eminent authorities, to show that wherever there is most poverty there is the greatest mortality. He asserts, on the calculations of Casper, that in Berlin the medium duration of life amongst the highest classes is fifty years, whilst among the indigent it is only thirty-two years. Out of a thousand of the newly-born nobles of Berlin fifty-seven die during the first five years of life, but out of the same number of the newly-born of the poor class three hundred and forty-five die in the same period. During epidemics the lower classes are specially influenced and decimated. The learned professions, exercised by persons living in comparative comfort, are favourable to the duration of life. Of one hundred and fifty-two literary Frenchmen whose lives are collected, it is shown that the average duration of their existences was not less than sixty-nine years. Casper, dividing the profession according to the longevity of the members, states that the average of life in

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the theological class is sixty-five years; in commercial men, sixty-two; in persons holding public appointments, sixty one; in agriculturists, sixty-one; in military men, fifty-nine; in lawyers, fifty-eight; in artists, fifty-seven; and in teachers, fifty-six. Medical men are a fraction lower in the scale than teachers. Thus, amongst the professions, theologians and medical men occupy the extreme rounds of the ladder of life.

In a report on the duration of life amongst six thousand eight hundred and fifty seven people, representing twenty-two different professions, Dr. Neufville, of Frankfort, has found the mean duration of life to run as follows: Amongst ecclesiastics, sixty-five years and eleven months; teachers, gardeners, and butchers, fifty-seven years and ten months; commercial men, fifty-six years and nine months; lawyers and financiers, fifty-four years and three months; medical men, fifty-two years and three months; bakers, fifty-one years and six months; carpenters, forty-nine years and two months; masons, forty-eight years and eight months; shoemakers, forty-seven years, and three months; joiners, locksmiths, and blacksmiths, forty-six years and three months; tailors, forty-five years and four months; lithographers and type-cutters in stone, forty years. Theologians and lawyers present the greatest number of deaths from old age. Medical men succumb specially to typhoid affections and to diseases of the circulatory system.

Dr. Escherich has calculated from a given number—viz., fifteen thousand seven hundred and thirty persons, of different professions, and ages, living in the kingdom of Bavaria in October, 1852, a series of results relative to the comparative value of life. He states that foresters show a retrograde movement greater than that of other callings at every age; Protestant pastors have more old men amongst them than has any other class, but the mortality amongst them is very considerable from fifty to sixty years of age; teachers in Bavaria are very nearly in the same position as Protestant pastors; lawyers have not a very marked mortality during middle life, but after sixty it increases remarkably, to decrease again after seventy. Roman Catholic priests from forty-five to sixty-five exhibit a mortality, in Bavaria, beyond all classes of professional men except doctors. Very few of these priests live beyond eighty years. Doctors never hope for a long career; they die, at all periods of life, in greater proportion than the members of any other profession. Their largest mortality occurs during the first periods of their career. Three quarters of them die before forty, and ten-elevenths before sixty. Old men are rare in their ranks in Bavaria. We regret that the same holds good in England. Dr. Farr shows us that the annual rate of mortality per cent. among English physicians and surgeons of the age of twenty-five and under thirty-five was 1.184 in three years, or 0.215 above the average. These hard facts are but the reflected pictures of the hard overwork and the dangers with which our brethren have to contend all the world over.—*Lancet*, Feb. 4th, 1865.

—

Smallpox.—This disease is said to be ravaging Lahore. Out of a population of 50,000 native inhabitants, 7000 of them have fallen victims to it within two months.

—

Quacks in Turkey.—In consequence of the death of a soldier having occurred in Constantinople after taking the prescription of a quack doctor, the medical director-general ordered a commission of inquiry into the quality of the medicine. The result has been a seizure of the whole of his drugs, he himself being arrested for illegal practice.—*Lancet*, March 4, 1865.

—

The Dinornis.—Great interest has been excited, says the *Sydney Morning Herald*, amongst the naturalists at that place by the news of the discovery of the moa's egg recently in New Zealand.—*Lancet*, Dec. 17th, 1864.

—

Obituary Record.—Died, Jan. 30th, 1865, aged 76, Edmund Balfour, for upwards of fifty years the Secretary of the Royal College of Surgeons.

—— Jan. 31st, 1865, aged 70, Dr. Jones Quain, author of a well-known work on Anatomy, and formerly Professor of Anatomy and Physiology in University College.

—— Jan. 31st, 1865, aged 56, Hugh Falconer, M. D., Vice-President of the Royal Society.

—— Dec. 12th, 1864, at Sierra Leone, W. B. Baikie, M. D., Surg. R. N., the well known African explorer.

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PART. II.—GALENICAL PHARMACY.

CHAP. I. The different parts of Plants, their Collection and Desiccation.
II. On the Powdering of Drugs, and on Powders.
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VIII. On Dispensing and Compounding Prescriptions.

APPENDIX.

On the Management of the Sick Chamber—Preparations of Articles of Diet—Recipes for Important Popular Medicines.

The thoroughness with which this very complete plan has been filled out may be judged from the fact that the Index contains about 4,700 items. Under the head of Acids there are 312 references; under Emplastrum, 36; Extracts, 159; Lozenges, 25; Mixtures, 55; Pills, 56; Syrups, 131; Tinctures, 138; Unguentum, 57, &c. &c. It thus becomes a storehouse of pharmaceutical knowledge, to which the physician can at all times refer with the certainty of finding the latest practical information on all subjects coming within its scope.

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CLINICS.

CLINICAL LECTURES.

Lecture on the Results of the Surgical Treatment of Cancer. By T. SPENCER WELLS, F. R. C. S., Surgeon in ordinary to her Majesty's Household.

GENTLEMEN:—Perhaps there is no question which more frequently arises in practice, or which is answered with so much doubt and hesitation, as the question, "Should a cancer be removed?" At one time removal was the general rule of practice. Then the frequency of return after removal, and the revival of the humoral or chemical pathology, led to the rule only to operate in exceptional cases. It was asserted that by removal of a cancer in the early stage, we only removed one seat of deposit, left the blood unaltered, encouraged deposit in some other part, and so did more harm than good, often shortening life. Therefore it came to be a sort of rule of this school not to attempt to remove or destroy a cancerous tumour, unless it was either actually ulcerated, or growing so fast that the skin was about to give way, or the destruction of some vital part was threatened. It was urged that growths, having all the characters of cancer, occasionally disappeared, under the influence of hygienic or medical treatment—that other such growths have sometimes remained completely dormant for many years without injuring the health or shortennig the life of the individual—and that it was absurd to say the disease was not cancerous in such cases because the patient recovered, or lived to old age unaffected by the local disease. But the most determined leaders of this school admitted that in cases where an open cancer gives great pain, and is wearing away the patient by bleeding or profuse discharge, this cancer should be removed, in the hope first of relieving suffering, and secondly, of prolonging, though not of saving life. In some other cases where a cancer caused great mental anxiety to a patient, it was to be removed

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at her earnest entreaty, after fairly explaining the probability of a return of the disease. For many years these rules were followed in practice, and are so still by many excellent surgeons. But during the last four years a marked change has been taking place, and the professional mind is still in a state of transition. The transudation hypothesis is falling before the cellular theory. The belief that cancer is always a disease of the blood is severely shaken by the vigorous attacks of Virchow, and the positive and visible demonstration which he affords of the local origin of morbid growths, and the secondary contamination of neighbouring parts and of the blood by extension and by absorption of the products of local disease. He has gone very far towards proving that the cells of the connective tissue (commonly known as cellular or areolar tissue) are the ovules of cancerous growths, as they are of all the new cellular productions. We are still ignorant of the nature of the peculiar change or irritation which, in the first instance, alters a connective tissue cell into a cancer cell; but when once this change has taken place, and the altered cells begin to grow and multiply by division, we have clearly a focus both of local and general contamination—local, by imbibition of the fluid formed by the diseased cells into the healthy cells of adjacent tissues; and general by absorption or transudation of the morbid products through the lymphatics and veins. Thus, the harder the tumour, the less likely to spread; the softer, the more likely both to spread locally and to contaminate the blood. The direct and necessary practical deduction for the surgeon from these views is, that all malignant growths should be removed in their earliest possible stage—as soon, in fact, as their nature is ascertained; and to this rule, surgeons seem to be partially, though perhaps unconsciously, returning.

It requires the observation, and careful observation, of many years, and of many independent observers, to settle such a point as this; but a great deal has been done to show, by comparing a large number of cases of cancer where removal has been practised with others where the patient has been left without operation, that the average duration of life in the patient operated on is decidedly lengthened. No trustworthy data exist for making such a comparison with cases in which the tumour was removed at a very early stage, but my own experience is leading me to adopt the rule deduced from the pathology of Virchow. I have had several cases since the publication of my pamphlet on "*Cancer Curers*," in which I have excised growths which microscopic examination has proved to be truly cancerous, and in which no return has yet been observed. The time is obviously too short to speak of them as permanent cures—indeed, it is almost certain that in nearly all there will, sooner or later, be a return; but the result has satisfied me that the rule of practice most commonly followed may be advantageously modified in cases where the disease is in a very early stage. The operation at that stage is a very trifling one, is perfectly painless under chloroform; and so little necessity does there appear to be to keep patients to their rooms, that I have both in private practice and among hospital outpatients allowed them to come backwards and forwards from their homes. Supposing the general health to improve, and the cause which led to the first change in the connective tissue cells should not operate again, then *removal* really becomes *cure*.

If the teaching of Virchow, the greatest of living pathologists, be true—if the belief in the universal constitutional origin of cancerous tumours be unfounded—if the constitutional disease is, even in some few cases, secondary, the morbid condition of the blood originating in, and being kept up by a supply of hurtful ingredients from some diseased locality—how hopefully may both surgeon and patient look upon the treatment of cancer in its early stages, before the germs have spread into neighbouring tissues, before they or any irritating fluid have been conveyed to a distance, before the healthy cells of neighbouring parts have imbibed by endosmosis the specific or parenchymatous fluid, or this fluid has been carried by lymphatics or veins to distant parts. And, on the other hand, how fearful is the responsibility of the cancer curer who tampers with the life of the poor sufferer who has confided in his knowledge and skill! If he attempt to procure absorption of the tumour and succeed, he may produce the general contamination of the blood of which the growth itself was erroneously regarded simply as an "outward and visible sign." If he fail, he still gives time for the growth of germs, and for extension first locally, and then by absorption.

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If he employ caustics, he may be adopting the very practice of all others most likely to lead to a rapid and general development of cancer throughout the body, by hastening softening of the growth, setting up irritation in neighbouring parts, and assisting the transmigration of cancer cells through the blood to distant parts of the body.

The fact that *removal* may really result in *cure*—that the disease may not return—should certainly encourage both patient and surgeon to think of removal in any case where the whole of the diseased part can be removed without unusual risk or difficulty; but it would be very wrong to conceal from any patient the fact that this happy result is extremely rare, and that, except under very unusual circumstances, no more can be expected from removal than prolongation of life, and diminution of suffering.

That *life is prolonged* by removal is now satisfactorily established by statistics. The results of different statistical tables vary. But those most to be relied on tend to prove that the average duration of life in those operated on is certainly greater than in those in whom the disease is allowed to run its course without operation. In a valuable lecture, published in the *Medical Times and Gazette* in 1862, Mr. Paget says: "In a recent tabulation of Hospital and private cases, 85 cases operated on lived an average of 55·6 months, and 62 cases not operated on lived an average of 43 months. And some such proportion as this will probably always be found."

Not only is life prolonged, but *suffering is lessened*. The amount of suffering, mental and bodily, of a patient during the ordinary course of cancer is very great. "Consider," says Mr. Paget, "the pain and anxiety—the pain likely to increase daily—the misery of waking every day to the consciousness of an incurable disease; the sometimes loathsomeness; the restlessness for cure—cure, such as there are *never wanting dishonest men to promise*." By an operation painless under chloroform, and not followed by painful dressings, this constant, daily, weary pain is relieved for a time, and the patient is also restored to a state of mental comfort which is as great a gain as the relief from pain. In some cases, where there is no hope of prolonging life, the pain and suffering from an open cancer are so great that it is right to operate simply to obtain for the patient a comparatively painless death.

If, then, the oft-repeated objection to operation—that life is not lengthened but shortened—is satisfactorily answered; if we also dismiss as unproved, and certainly erroneous, the suggestion that when the disease returns it will be in a more aggravated form than if the disease had run its own course, the question arises, "Why not operate in every case?" And the answer is ready, "Because the operation is one attended with risk to life" In some cases this risk is very great, in others very small; but taking the average of some hundreds of cases, Mr. Paget estimates that "a patient runs a risk of 1 in 10 of dying" from the operation. Others estimate the risk as low as 5 per cent, or 1 in 20.

In a consultation, however, upon any individual case, neither patient nor surgeon will be content with a mere statement of averages. It is seen at once, as from 1 in 20 to 1 in 10 die of the immediate effects of the operation, and the average life of those operated on is over 55 months, that some patients must live many years. And the questions which are asked are not: What are the *general* results of operation? How long do people *in general* live after it? How soon does the disease *generally* return after operation? but the individual case is pressed home: What risk would there be to *my* life? How long should *I* be likely to live? How soon might *I* expect a return of the disease?

It is said, and said truly, that general conclusions can only be drawn from general averages. Mr. Paget says: "To deal with single cases is a sort of surgical gambling." The gamblers, however, are they who operate in nearly every case which comes before them and they who operate in none, both classes satisfying themselves by statistical tables and general averages, rather than by forming a careful estimate of the probable results of treatment in each case. Each case must be considered by the light of general experience, but it is no less in itself a subject for separate calculation. And in every case which comes before us we must be guided by certain general rules, the most important of which may be shortly summed up as follows:—

Risk of Removal.—The average mortality being from 5 to 10 per cent., in what cases is the risk above and in what below the average? Supposing the patient to be placed under the most favourable circum-

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stances possible to prevent the occurrence of erysipelas, pyæmia, any form of septicæmia, or secondary hemorrhage (the chief causes of death *soon* after operation) the probable liability of any patient to these dangers may be estimated by observing certain general and local conditions. The *general* conditions favourable to operation, or those which may fairly justify the hope that a patient will not die from its effects, are that she is not more than 60 years of age, not emaciated, is well-nourished, clear-complexioned, temperate, courageous and even-minded, and free from other organic disease. The reverse conditions are seen in patients over 60 years of age—in over or under fed people—the emaciated, or the fat and plethoric—those of cachectic, leukæmic, or chloro-anæmic aspect—the dejected or hysterical—and they who, in addition to the cancer, have some organic disease of heart, lungs, liver, or spleen. The favourable *local* conditions are that the skin over and near the tumour is soft and healthy, free from œdema, freely movable, and free from scattered nodules of cancer—that there are no diseased cervical glands—none, or few, diseased axillary glands—that the breast is small—that only one breast is diseased—and, if only part of one be affected, that this is the lower part. The unfavourable local conditions are, the skin is brawny, the hair-follicles large and open, the skin over the tumour adherent, that there are scattered cancerous tubercles in the skin, that the supra-clavicular glands are swollen, that there are many diseased axillary glands, that the breasts are large, that both are diseased, or, if only part of one, that it is the upper part.

By bearing these things in mind it is not difficult so to select cases as to reduce the risk of removal to a very low average, and there can be no difficulty in deciding in any case whether the risk is greater or less than the average.

When part of one breast only is affected, the rule generally followed is to remove the whole breast; and this rule is a good one if the breast is small. But when only a small portion of a large breast is affected, it is much less dangerous and equally effectual to remove the diseased part and some of the surrounding healthy tissue, than to remove the whole breast. There is good reason to believe that the disease is as long in returning when only the diseased part has been removed, as when the whole breast is removed.

When it has been decided to remove cancer, the question will arise, "Should it be removed by the knife, or by caustic?" And the answer must be framed again upon full consideration of all the circumstances of each case, but guided by the following general rules:—

1. There is no proof whatever that the return of cancer after removal by caustic is less rapid than after removal by the knife. On the contrary, it is probable that the return will be more rapid, (*a*) from the greater probability that some portion of the cancer will escape the action of the caustic than the dissection of a careful surgeon; (*b*) from the inflammation set up in the surrounding tissues and the irritation of neighbouring glands.

2. Admitting that the immediate risk to life from the removal by caustics may be less than after removal by the knife—in other words, that pyæmia and hemorrhage are less likely to occur—we have abundant proof that the risk is very considerable, and that the intense and long-continued suffering does in itself lead to exhaustion and death.

3. It is possible that the attempt to remove a cancer by caustics may fail altogether, that the irritation set up in the diseased growth and in the parts surrounding it, or the extension of the sloughing to vital parts in the neighbourhood, may destroy the patient before the cancer is destroyed.

These objections will generally lead the surgeon to advise the patient rather to submit to excision than to caustics. But in some cases, where the situation of the growth is such that the knife cannot be used safely, caustics are decidedly preferable, as they are also in cases where the growth is small, or of moderate size, and slow in its progress, while the unhealthy general condition of the patient would render the knife more than usually hazardous; for, as Mr. Paget has said, "the constitutional maladies that greatly increase the risk of cutting, do not, except very rarely, increase the risk of caustics." There are also some cases of open cancer in a very late stage of the disease, so adherent that the knife could not be safely used, where the diseased part may be completely destroyed by caustic, and a sound cicatrix may result. Sometimes it may be well to leave the choice to a patient, after representing to her fairly the

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advantages of the two methods. Some may be guided by the dread of the knife, others more by the dread of pain, and it is right to allow these fears their full weight.

The cases decidedly unfit for caustics are those of acute or rapidly-growing cancer, or those of large size, and those where there is an œdematous, brawny, or tuberculated or ulcerated condition of the surrounding skin, and those where the supra-clavicular or axillary glands are enlarged and indurated. And most of the conditions which on general grounds forbid the use of the knife also forbid the use of caustic.

Supposing it to be decided to destroy a cancerous tumour by caustic, all the evidence before us goes to prove the chloride of zinc to be the most effectual and safest yet employed; that it is a matter of great indifference whether it is employed as a paste or in solution; but that its action is considerably hastened by scoring through the slough, as Justamond did, down to the living tissues beneath, so that they are not protected by the slough from the action of the caustic. This scoring is not so necessary when the chloride is used in solution as when it is used as paste, after destroying the skin by nitric acid; and it is not at all necessary if one or more pairs of galvanic plates are used as the caustic. If a piece of zinc be placed on any raw surface, and a piece of silver near it, a silver wire connecting the two, the part covered by the zinc is destroyed very rapidly, and the slough formed is a very soft one, which is easily sponged away. I saw a lady in 1854, with Dr. Lawrence, of Connaught-square, suffering from cancer of the breast, and we decided, on consultation, to adopt this method, which Dr. Lawrence carried out most effectually. I should not be at all surprised to hear that the next great empiric who appears in London will profess to cure cancer by galvanism.

Occasionally it is advisable to apply the actual cautery instead of using caustic, and I have recently found the use of a small jet of lighted gas, by means of the instrument made by Mathieu for M. Nélaton, very efficacious. It is much more easily arranged than the galvanic cautery, is equally manageable, and has the great advantage of destroying parts without touching them; so that there is no fear of the eschar adhering to the metal, being removed as the metal is withdrawn, and bleeding thus being set up. In cancer of the upper jaw, or base of the skull, which project into the mouth, very great temporary relief is gained, even if only a partial destruction of the growth can be effected.

When removal cannot be recommended either by the knife or by caustics, it must be remembered that we can do a great deal more towards arresting, even curing cancer, than is generally believed—that our art is not nearly so powerless as charlatans assert. Growths with all the characters of cancer have occasionally, although very rarely, disappeared under the influence of remedies. Other such growths have remained completely dormant for many years, without affecting the health or shortening the life of the individual; and it is absurd to say that the disease was not cancerous in such cases because the patient recovered, or lived to old age unaffected by the local condition.—*Med. Times and Gaz.*, Feb. 11, 1865.

Clinical Lecture on Syphilitic Disease of the Rectum and Colon. By JAMES PAGET, Esq., Surgeon to St. Bartholomew's Hospital.

Mr. Paget began by remarking that a great advance in pathology had of late years been made by the recognition of an important fact respecting constitutional syphilis. It was long supposed that this disease was limited to the skin, the osseous system, and such parts of the body as could be examined during life; and that the internal organs remained unaffected. It had lately, however, been clearly established that the internal organs enjoyed no immunity, but that they were occasionally the seat of lesions as definite and characteristic as any that were found elsewhere. This inquiry was by no means exhausted; for although it could now be said with certainty that some affections which till recently were looked upon as anomalous, and as belonging to no particular order, were in reality syphilitic in their origin, yet a distinct and sufficient description of many of them was still wanting. A valuable paper[1] published by Dr. Wilks, on "Syphilitic Affections of Internal Organs," was by far the best that students could read on this subject.

Mr. Paget said the history of the patient upon whose case he was about to speak was briefly as follows: She was admitted into

[1] Guy's Hospital Reports, Third Series, vol. ix.

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the hospital in November last, being at the time 28 years old. She stated that seven years previously she had been affected with syphilitic sores, shortly followed by a scaly cutaneous eruption. About a year subsequently she became subject to an itching about the anus, and a growth of skin appeared reaching a short distance into the rectum. Two years after this, a large ulcer formed in the neighbourhood of the anus, and she was received into University College Hospital. The ulcer was destroyed by the application of some corrosive fluid. The growth before mentioned was removed, and rectum bougies were passed for a stricture, which was already in process of formation. At the end of a fortnight, being much relieved, and her general health having much improved, she was made out-patient; but soon becoming pregnant, she ceased to attend. The child she afterwards gave birth to was born dead. Three years ago she was admitted into St. George's Hospital, having, in addition to the previous disease of the rectum, a recto-vaginal fistula. The sphincter ani was divided; bougies smeared with unguentum hydrargyri were frequently passed, and she was placed under the influence of mercury by means of the calomel-vapour-bath. Under this treatment she improved rapidly, and was soon discharged. About two years ago, having in the interval borne another child, she applied at King's College on account of a relapse into her previous condition, and having received relief from the same kind of treatment as that before employed, she soon left the hospital. In July last she became a second time in-patient at St George's Hospital. The canal of the rectum was now so much narrowed that only a catheter could be passed through the stricture; her general health, which up to this period had been tolerably good, was beginning to fail, and suffering from sickness and diarrhœa for some days, she lost flesh rapidly. After her discharge she remained for a few weeks at home with her friends, and then was brought to St. Bartholomew's.

At this time she was in a state of extreme emaciation and misery, and evidently suffering from pulmonary phthisis; so that any expectation of affording her permanent relief seemed hopeless. She continued to decline, and died on March 1st.

At the *post-mortem* examination the lungs presented the ordinary appearances of extensive ulceration around tuberculous deposits, numerous cavities existing in the upper lobes, but no syphilitic affection could be detected; the heart was normal; the liver was rather large, pale, and tough, but it gave no reaction with solution of iodine, and exhibited no specific ulceration; the spleen and kidneys were normal.

Mr. Paget continued: The chief points of interest are in the characters of the disease found in the rectum and colon, which may be studied as an example of syphilitic affection of those parts. The anus of this patient did not present more than remnants and traces of the cutaneous growths which are generally significant of syphilis. They had existed in her, but they were cut away. The like may be seen, however, in a patient in Magdalen Ward, who has disease of the rectum just like the one before us. They are growths of skin grouped round the anus, in texture pinkish, soft, fleshy, glistening, moist, and thinly secreting; in shape irregular, flattened as if by mutual pressure, or pressure between the nates, sharp-edged, or conical. If they must be compared with something, they may be with cocks' combs, which, indeed, they are very like. After describing the differences between these growths and the warts and condylomata common in syphilitic patients, Mr. Paget said: I will not venture to assert that these cutaneous growths are never found except with syphilitic disease of the rectum, but they are very common in association with it, and so rare without it that I have not yet seen a case in which they existed either alone or with any other disease than syphilis. In this rectum are found the results of wide-spread ulceration. Its whole mucous membrane is destroyed except one small patch, which is thickened and opaque. The exposed submucous surface has a tuberculated, undulating, uneven appearance, and is thickened by infiltration. In the early stages the tissue is soft, as if from recent inflammatory effusion, or œdema; but as the infiltration organizes it hardens, becoming callous, with fusion of the mucous and submucous coats, and then contracts, and thus brings about the state of stricture. The affection commonly extends from the anus, as if by continuity with the excrescence, to about five inches up the rectum; but it is rarely so marked in the first inch of the rectum as it is higher up. Hence the chief seat of the stricture is usually from an inch to an inch and a half above the anus. Of

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this diseased state, as of the anal growths, I will not venture to say that it is never seen except with syphilis. Certainly it is a frequent disease among syphilitic women; but perhaps other forms of ulceration of the rectum may, by long continuance and repeated irritation, acquire characters not distinguishable from these. But the doubts that might exist as to the specific character of the disease of the rectum, if we had it alone to examine, can in this case be removed by observing the connection and continuity of the ulceration of the rectum with ulcers of the colon, which are altogether peculiar. On the mucous membrane of all parts of the colon there are ulcers of regular, round, or oval shape, from a sixth of an inch to about two-thirds of an inch in diameter, with clean, sharp-cut, scarcely thickened edges, surrounded by healthy, or only too vascular mucous membrane. Their bases are for the most part level, flat, or with low granulations resting on submucous tissue, nowhere penetrating to the muscular coat, with no marked subjacent thickening or hardening. On some of them are ramifying bloodvessels; on some few there is at the centre of the base a small island of mucous membrane, giving to the ulcer an evident likeness to the annular syphilitic ulcers of the skin. At some places two or more of these ulcers, extending and uniting, have coalesced into a large ulcer of irregular shape, and rather deeper than the smaller, but in all general characters similar to them. By such coalescence some of the ulcers in the lower part of the colon are continuous with the ulcerated surface of the rectum, making it probable that at first similar forms of ulcers may have existed in the rectum, though now superadded thickening and partial scarring have destroyed nearly all traces of any primary shapes of ulcer. The ulcers of the colon are placed without plan or grouping, except that they decrease in number and closeness, and, on the whole, in size also, from the rectum to the cæcum. In the cæcum there are none; in the ileum only one, very small and of rather doubtful character. The only question as to the diagnosis of these ulcers may be whether they are syphilitic or tuberculous. They are so different from all the forms of catarrhal, follicular, typhoid, dysenteric, and cancerous ulceration of the intestine, that there is no need to compare them; but from the tuberculous they must be distinguished, not so much because of any near resemblance between them as because the patient had tuberculous disease of the lungs, and was therefore not unlikely to have it in the intestine. Here, then, are the chief grounds of diagnosis.

These ulcers are limited to the large intestine, and decrease in size and number from the rectum upwards, conditions which, I think, are never observed in tuberculous disease.

There is not a trace of tubercle—*i. e.*, of circumscribed crude or softening tuberculous deposit—in the submucous or any other tissue of the intestine; none in a Peyer's patch, or at the base or edge of any ulcer, or in the subperitoneal tissue below an ulcer.

The shape and other characters of the ulcers are quite unlike those of intestinal tuberculosis: they are regular, with sharp, even, well-defined edges, with level bases; they are not excavated; they do not extend through the submucous tissue; their edges are nowhere eroded or undermined, sinuous, thickened, or brawny, or infiltrated; the subjacent and intervening structures appear healthy, except at the rectum.

These ulcers are not grouped, and where, by extension and coalescence, they have lost their first shape, they have acquired one altogether irregular, and have in no instance even tended towards that girdle-like shape, encircling the canal of the intestine, which is so characteristic in the large coalesced tuberculous ulcers.

Thus, by negative as well as positive characters, these ulcers are clearly distinct from the tuberculous; and, as I have said, there is no other form of intestinal ulcer to which they bear even a remote resemblance. We are justified in regarding them as syphilitic by their occurrence in a patient with a complete syphilitic history; by their coincidence and continuity with a disease of the rectum and anus which is very rarely, if ever, seen except in those who have had secondary syphilis; by their likeness in many features to some of the admitted secondary syphilitic ulcers of the skin; and by their unlikeness to any other intestinal ulcers. Some, indeed, may choose to call them "lupous;" but to this name it would be necessary to add another to indicate the nature of the constitutional malady with which the "lupus" is connected, for lupus is not a single local disease depending on only one constitutional defect. It is in some

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cases strumous; in some tuberculous; in some syphilitic; in some it has a relation to cancer. If the ulcers in this colon are to be called lupous, they must also be called syphilitic.

Mr. Paget concluded by enforcing the importance of the study of syphilitic affections of internal organs. A mistake or oversight in diagnosis would lead to very serious errors in practice. Nothing could be greater than the difference between the proper treatment of syphilis and that required in tuberculous disease. The treatment adopted in all doubtful cases would, of course, be regulated by the diagnosis.—*Med. Times and Gazette*, March 18, 1865.

HOSPITAL NOTES AND GLEANINGS.

Inflamed Serous Cysts in the Groin and Perineum simulating Strangulated Hernia.—February 21, 1863, at twelve o'clock at night, a boy, age 9, was admitted into Middlesex Hospital, under the care of Mr. Hulke. In his left inguinal canal was an elastic, oblong swelling that descended through the external ring, between the scrotum and thigh, into the perineum, as far as a line drawn between the ischial tuberosities, instead of taking the usual course of a rupture into the scrotum. The perineal end of the swelling was rounded and well-defined, while the upper end was obscure and lost at the external ring. The belly was tender. The groin and scrotum were red and œdematous, and the left side of the latter was distended with a solid swelling, evidently an inflamed testis, which was separated by a shallow vertical groove from the inguino-perineal tumour. He retched incessantly, and his bowels had not been open for three days. These symptoms were said to have begun suddenly, two days before, while he was in good health.

From its characters, its apparent escape from the belly through the internal ring, its situation in the inguinal canal, the constipation and retching, collectively, Mr. Hulke inferred that the tumour was probably an inflamed strangulated hernia, complicated with orchitis, the latter probably due to the persevering use of the taxis; but the unusual direction of the tumour after leaving the external ring, with the possibility that the retching was symptomatic of the orchitis, and the constipation accidental, occasioned him some doubts. The deviation of the supposed hernia into the perineum was the most suspicious point, since a rupture, at the boy's age, would almost certainly have been of the congenital variety, and its descent into the perineum would have been preceded by the misdirection of the testis to this region. An example of this had been seen by Mr. Hulke several years before, but in the present case the left testis was in its proper place, and the rupture was as plainly not in the tunica vaginalis.

The inflamed state of the parts precluding a further trial of the taxis, it was resolved to make an exploratory operation. An incision in the long axis of the inguinal swelling laid bare a thin membranous sac, deeply girt by the external ring. This was divided without relief. The sac was opened and about an ounce and a half of clear yellow serum ran from it. It was an oblong cavity about one and a half inches long, ending above in two short, blind diverticula at the internal ring, while below it communicated by a small aperture in the level of the middle of the scrotum with the perineal swelling. This was next laid open. It contained only serum and fibrinous clots, but a second deeper swelling was felt through its posterior wall. This was another cyst of less regular outline than the superficial one. Its only contents were an ounce of serum. It was now evident that the cysts were not a hernia. The boy was placed in bed and the wound poulticed.

The retching continued until six o'clock P. M. on the 22d. His pulse was 128, and the perineum much inflamed. The belly was soft and painless. Constipation persisting, an enema was given, but it was soon expelled without feces. Next day the inflammatory swelling was greater, and his pulse had risen to 140. In the evening three grains of calomel were ordered, and on the following morning he passed three very copious stools. From this time the orchitis subsided. A small superficial abscess burst through the front of the scrotum. The cysts suppurated and were obliterated, and the wound healed soundly. At the patient's last visit, May 18, the only trace was a hard cord running from the back of testes to the groin and perineum. The connection of the scar with the lower part of the spermatic cord makes it not improbable that the cysts originated in some of its structures, perhaps in an unobliterated portion of the vaginal process, and were really encysted hydro

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celes of the cord. Orchitis occurring, inflammation extended to them from the testes, and the scrotum being distended, the rapidly-enlarging hydroceles took the direction of least resistance towards the groin and perineum.—*Med. Times and Gaz.*, March 11, 1865.

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Effects of Working in Phosphorus.—Jas. D., aged 34, a worker in phosphorus, applied at St. George's Hospital, owing to bleeding from the gums, redness and soreness of the lining of the cheeks, the mouth feeling as if "all on fire," and irritated by the air breathed. In many parts patches of the mucous membrane were quite destroyed. He complained, also, of being heavy and dull, and inclined to sleep. The pupils were equal, but dilated. He generally worked with "white" phosphorus, and had been doing so for two years; latterly, he had worked in black phosphorus, which evaporates more than the other, and also at times had to work in arsenic and mercury. He stated that on previous occasions the mouth had been tender. He had lost flesh of late. No symptoms of other disease were discovered. He was ordered quinine and steel, with nitric acid, three times a day, and a lotion for the inside of the mouth of tannic acid, spirits of wine, and the compound decoction, with the tincture of bark. He gradually improved, remaining absent from the workshop and continued his medicines for a month, when he discontinued attendance, as being well.—*Med. Times and Gaz.*, March, 11, 1865.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

American Medical Association.—The Sixteenth Annual Session will be held in the City of Boston on Tuesday, June 6th, 1865. The following Committees are expected to report:—

On Insanity, Dr. H. R. Storer, Mass., Chairman.

On Exsection and its Connection with Conservative Surgery, Dr. Lewis A. Sayre, New York, Chairman.

On Drainage and Sewerage of Large Cities and their Influence on Public Health, Dr. W. J. C. Duhamel, D. C., Chairman.

On Alcohol and its Relations to Man, Dr. G. E. Morgan, Maryland, Chairman.

On Quarantine, Dr. Wilson Jewell, Pennsylvania, Chairman.

On Medical Ethics, Dr. John A. Murphy, Ohio, Chairman.

On the Microscope, Dr. James M. Corse, Pennsylvania, Chairman.

On the Relations which Electricity Sustains to the Causes of Disease, Dr. Squire Littell, Pennsylvania, Chairman.

On the Morbid and Therapeutic Effects of Mental and Moral Influences, Dr. A. B. Palmer, Michigan, Chairman.

On the Causes of the Extinction of the Aboriginal Races of America, Dr. George Suckley, New York, Chairman.

On the Causes and Treatment of Ununited Fractures, Dr. Frank H. Hamilton, New York, Chairman.

On Diphtheria, Dr. Lucius Clarke, Illinois, Chairman.

On the Uses and Abuses of Pessaries, Dr. Jas. P. White, New York, Chairman.

On International Medical Ethics, Dr. J. Baxter Upham, Massachusetts, Chairman.

On Climatology and Epidemic Diseases, Dr. C. W. Parsons, Rhode Island, Chairman.

On Autopsies in Relation to Medical Jurisprudence, Dr. T. C. Finnell, New York, Chairman.

On so-called Spotted Fever, Dr. Jas. J. Levick, Philadelphia, Chairman.

On the Introduction of Disease by Commerce and the Means for its Prevention, Dr. A. Nelson Bell, New York, Chairman.

On Patent Rights and Medical Men, Dr. David Prince, Illinois, Chairman.

On Prize Essays, Dr. D. H. Storer, Massachusetts, Chairman.

On Medical Education, Dr. T. Antiselle, D. C., Chairman.

On Medical Literature, Dr. Charles A. Lee, New York, Chairman.

On Necrology, Dr. C. C. Cox, Maryland, Chairman.

On Compulsory Vaccination, Dr. A. N. Bell, New York, Chairman.

On Ligature of the Subclavian Artery, Dr. Willard Parker, New York, Chairman.

On Revision of Plan of Organization, Dr. N. S. Davis, Illinois, Chairman.

On Specialists, Dr. J. Homberger, New York, Chairman.

On Medical Corps of Navy, Dr. T. L. Smith, New York, Chairman.

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On Medical Corps of Army, Dr. Chas. S. Tripler, U. S. Army. Chairman.

WILLIAM B. ATKINSON,
Permanent Secretary.

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College of Physicians and Surgeons, New York—At the annual commencement held on the 9th of March, the degree of M. D. was conferred on seventy-eight candidates.

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Massachusetts Medical College (Boston).—At the annual commencement held on the 8th of March, the degree of M. D. was conferred on forty-two candidates.

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Buffalo Medical College—At the annual commencement held on the 21st of February, 1865, the degree of M. D. was conferred on fifty candidates.

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Charity Hospital Medical College of Cleveland, Ohio.—The number of students in this institution at the session of 1864-65 was seventy-four, and at its close the degree of M. D. was conferred on thirty-eight candidates.

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The New York Journal of Medicine.—This is the title of a new candidate for professional favour, the first number of which appeared last month, and which is to be published monthly at five dollars a year. The name of the Editor is not given; the publishers are Miller and Mathews. New York should have a medical journal; the talent and materials for maintaining one there are ample, and we trust this will receive the support it may deserve.

FOREIGN INTELLIGENCE.

Bromide of Ammonium in Pertussis.—Dr. KUCHENMEISTER states that additional experience confirms the favourable opinion he formerly expressed concerning the value of this medicine. He gives of a concentrated solution of the bromide from five to fifteen drops three times daily, according to the age of the child, proceeding to the larger quantity named only gradually.—*Med. Times and Gaz.*, April 8, 1865, from *Zeitschrift für Medicin*, 1864, p. 410.

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Thoracentesis in a Child.—M. ROGER relates at some length the details of a case of purulent pleurisy occurring in a child 8½ years old, the treatment of which occupied nearly six months, during which the operation of thoracentesis was performed five times. Iodine injections were resorted to, and a canula was left within the wound to facilitate the discharge of the pus. From this case he derives the following considerations:—1. The importance and at the same time the difficulty in coming to a quick decision with regard to this operation in certain urgent and complicated cases of purulent pleurisy. (In this case it was complicated with broncho pneumonia of the opposite side.) 2. The advantage of making in children the puncture without preliminary incision of the walls of the thorax. 3. The necessity which almost always exists in empyema of repeating the operation several times. 4. The difficulty which exists, do what we will, in preventing the admission of air into the pleura. 5. The frequent innocuity of the presence of this air. 6. The manifestation as a consequence of its introduction of stethoscopic phenomena not always of easy interpretation, and which may be mistaken for perforation of the lung with consecutive hydro-pneumothorax. The readiness with which lateral deformity of the spine, with concavity on the bad side occurs, and the rectification of this deformity, which takes place sometimes rapidly after recovery.—*Med. Times and Gaz.*, April 8, 1865, from *L'Union Méd.*, No. 82.

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Treatment of Itch.—To the thousand remedies for the treatment of itch, each said to be more valuable than its predecessor, M. Metzel, of the Austrian army, adds another, which, he says, possesses the advantage, while it cures the affection as rapidly as any known means, never to induce consecutive eczema, which so often retards the cure. He terms his remedy phosphorized olive oil, and prepares it by boiling in a bottle closed by a bladder two drachms of phosphorus with a pound of olive oil. This is then allowed to cool, and the oil is decanted from any of the phosphorus which remains undissolved, great care being needed to prevent any of the undissolved phosphorus accompanying the oil, as it would irritate the skin.—*Med. Times and Gaz.*, March 18, 1865.

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Russian Pestilence—Much excitement has been produced abroad, especially in

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England. in relation to the outbreak and spread of a deadly pestilence in Russia. One account, it is stated in the *Lancet* (April 8, 1865), speaks of the malady as having originally appeared beyond the Ural Mountains, extended gradually through Central Russia, attacked St. Petersburg, causing a panic in that city, and, going southward, appeared in Prussia. Another account states that an outbreak of pestilential fever, termed the "Siberian pestilence," has occurred at Chanew, within the Waldej circle. This outbreak, it is said, has caused great alarm in St. Petersburg on account of its excessive fatality, and from a fear of its extension. Several medical men sent to the infected district to aid in repressing the disease have sickened from it and died A third account denies altogether the appearance of the disease in St. Petersburg. Again, one account states that the disease is a pestilential fever; another speaks of it as "plague;" a third describes it as an anomalous cerebral affection; and a fourth avers that it is Asiatic cholera.

From the minute and excellent report of Dr. TILLNER, physician to the Grand Duchess Maria of Russia, it is highly probable, as remarked in the *Medical Times and Gazette* (April 18), "that this disease is a modified form of the famine fever, which, according to Dr. Murchison, first appeared in Ireland in 1739, and which has since visited the British Isles again and again, having been especially fatal in Scotland and Ireland.

"The symptoms of relapsing fever and of the Russian disease described by Dr. Tillner closely correspond. The access of each commences with shivering, followed by increased heat and sweating. The pulse in relapsing fever beats from 120 to 150, being often as high as 140 on the second day. In the Russian disease it is usually 130. The temperature is elevated to 104° F. in the Russian fever, and in relapsing fever varies from 102° to 107° F. In the Russian plague the skin is yellow; in famine fever 'there is never any characteristic eruption, but a large proportion of cases are jaundiced.' There is a marked crisis in both diseases on the seventh day, followed by an interval of almost perfect health—languor being the only symptom complained of. The amelioration in both cases is ushered in by profuse perspiration, and seven days later a second relapse occurs, followed by an interval as before. The mind is generally unaffected in each disease. The rate of mortality in the Russian disease is, according to Dr. Tillner, 8 per cent.; in relapsing fever from 2 to 4 per cent., according to Dr. Murchison. Death in relapsing fever sometimes occurs by sudden and profound collapse, the face and extremities becoming livid. 'Sometimes a fatal termination occurs in this way a few hours after there had been any evidence of danger.' Hence, perhaps, the supposed resemblance of the Russian fever to cholera. At other times death occurs by coma and convulsions. Death in the Russian fever occurs by great prostration and a kind of general paralysis. Moreover, the causes which produce relapsing fever have been at work in St. Petersburg, and have also modified the disease. According to Dr. Tillner there is an excess in the capital of 43,000 workmen above the usual number, and these have been obliged to forego animal food and live almost entirely on black bread containing 1 per cent. of ergot of rye, and to live in unhealthy localities. Poisoning by ergot has thus been, no doubt, superadded to fever caused by famine, overcrowding, and destitution."

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Injurious Influences of Tobacco.—That most hopeless of all associations, the "British Anti-Tobacco Society," has just met with unexpected co-operation on the other side of the channel, in the shape of a learned academician. M. Jolly places before the Academy of Medicine a sombre picture of the mischief alleged to be due to smoking, and although it is hinted that he will never have the courage to demand a vote upon his propositions in an assemblage of which, grave as it is, the majority consists of confirmed smokers, his paper contains facts which it is desirable to notice, although the affiliation of these with the consumption of tobacco may not always have been rigorously made out.

Smoking has well nigh superseded the more innocent, if more disgusting, practice of snuff-taking in France as well as in our own country, and the immense progress that it has there made of late years may be judged of by the revenue returns. In 1832 the tobacco impost only yielded 28,000,000 francs—having continued at much the same amount since 1792—two-thirds of these arising from snuff-taking and one-third from

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smoking. In 1842 the amount rose to 80,000,000, in 1852 to 120.000,000, and in 1863 to 216,000,000—the amount derived from snuff remaining all this time well nigh stationary, and that from smoking tobacco thus rapidly increasing. In all those departments also in which the consumption of tobacco per head is greatest, the proportion used for smoking very far exceeds that employed for snuff-taking. The quantities consumed in the different departments vary from 1795 grammes per head in the Nord to 102 grammes per head in Charente. Taking the mean of the maxima and minima, comprising provinces in which very little smoking occurs, as Bretagne and Limousin, the probable calculation is that 8 kilogrammes (16 lbs.) of tobacco are annually consumed by each smoker, which is equivalent to 50 to 60 grammes of nicotine per head, *i. e.*, more than sufficient to kill a squadron of cavalry. Of course, confirmed smokers far surpass this modicum.

Official statistics show that in exact relation with this increased consumption of tobacco is the increase of diseases of the nervous centres (insanity, general paralysis, paraplegia, ramollissement), and certain cancerous affections. And it may be asked what else could be expected from the use of a substance so eminently poisonous that in its concentrated form it is only equalled in power by curare and prussic acid, while even in its ordinary condition its effects have been found so redoubtable as to have led almost to its discontinuance as a therapeutical agent. It is to be observed, however, that all the varieties of this plant are not endowed with an equal degree of activity, this depending upon the greater or less proportion of nicotine which they contain. The most recent analyses show us that this proportion may vary much; as, for example, from 2 per cent. in Arabic, Brazilian, and Havana tobacco, to 2.29 in Maryland, 3.21 in Alsace, 6.9 in Kentucky, 6.58 in Du Nord, 6.87 in Virginia, and 7.35 in Du Lot tobaccos. If Orientals, Turks, Greeks, Brazilians, and Hungarians smoke to an excessive extent with almost impunity, this arises from the fact that the indigenous tobacco which they employ contains very slight proportions of nicotine, and sometimes none at all; while other nations, as the English, Swiss, French, Swedes, etc., suffer much more severely from the tobacco they make use of. It is a remarkable fact that up to the present time no case of general or progressive paralysis has been discovered in any of the numerous localities of the East, where tobacco of so eminently mild a character, or some succedaneum, is employed. M. Moreau, in a careful investigation which he has made in the hospitals of Constantinople, Smyrna, Malta, and all the Mediterranean islands, has not been able to detect a single case of this kind. "The cause is plain enough, and eminently physiological. In all the regions of the Levant they do not intoxicate themselves with nicotine or alcohol, or the ambition of fortune or glory, but saturate themselves with opium and perfumes, sleeping away their time in torpor, indolence, and sensuality. They narcotize, but do not nicotinize themselves; and if opium, as has been said, is the poison of the intellect in the East, tobacco may one day prove in the West the poison of life itself."

Another unfortunate circumstance in the history of tobacco has been the displacement of the pipe by cigars, which is almost universally the case on the Continent. The juices of the tobacco, as well as the smoke itself, are thus swallowed and introduced into the system, while to the general effects we have added those due to local irritation. The gums and lips become red and tumefied, and the teeth suffer much from caries; but the most important circumstance is the frequency with which cancer of the lips occurs among smokers, and especially on the side of the lip on which the cigar or pipe is held. From this form of cancer women are almost entirely exempt. The predominance of cancer observed in women for almost all the organs ceases, too, with respect to the stomach, which is found to be more frequent in men in the proportion of 53 per cent. The danger from chewing tobacco in this relation is very great, especially as tobacco containing 6 per cent. of nicotine is usually employed, and that fasting. Organic affections of the stomach are of great frequency among sailors who indulge in this habit.

That an atmosphere charged with the products of smoking is to a degree poisonous is proved not only by the effects which it produces on those uninured to it, but also by the detection, by M. Melsens, upon the average, of a proportion of $\frac{7}{10}$ per cent. of nicotine held in suspension by the tobacco smoke. The mischievousness of such an atmosphere is further seen in the poisonous

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effects exerted upon the greater portion of the workpeople employed in tobacco manufacture, as evidenced by cephalalgia, loss of appetite, colic, vomiting, etc. Plants exposed to such an atmosphere soon become sickly and die, as, indeed, do birds; and although habit obtains for the workpeople an exemption from some of the evils they first suffered from, their cachectic appearance, disordered digestion, and the signs of premature old age too plainly indicate the character of their employment.

Passing over M. Jolly's general picture of the effects of tobacco upon the confirmed smoker, which has already been often drawn, we may again advert to its assumed effect in augmenting the number of mental diseases. It is especially general or progressive paralysis—a disease scarcely met with thirty years ago—which seems to be making such rapid advance under, as is supposed, the increased abuse of alcohol and tobacco. That insanity and affections of the nervous centres have enormously increased in France there can be no doubt, and this increase is found to be in men almost entirely made up of cases of progressive paralysis (now forming more than 60 per cent. of the total cases); and whenever in the asylums the history of such cases has been investigated, their dependence on the abuse of tobacco has been rendered obvious. In contrast with this is the rarity with which this form of the disease is met with in female lunatics. Among these paralytic lunatics, soldiers and sailors, who so much abuse tobacco, are found occupying the first rank. M. Jolly's investigations have induced him to come to the conclusion that this abuse of tobacco is far more operative in the induction of this paralysis than is the abuse of alcohol or absinthe which so often coexists. Among other facts tending to prove this, he adduces this one: In certain provinces of France—as Saintagne, Limousin, Bretagne, etc.—in which there is but little smoking, and an enormous consumption of brandy, progressive paralysis is well nigh unknown.

Finally, M. Jolly draws attention to the diminution in the population of France, especially of men from thirty to fifty years of age and upwards, as compared with women of the same ages. At these ages, too, diseases of the nervous centres form a far more common cause of death among men than women. As remedies for the evils he has depicted so strongly, M. Jolly suggests that the importation and consumption of the more innocent forms of tobacco should be encouraged, liberating the French soil from the cultivation of its poisonous tobacco in order to devote it to more useful productions. If this be impracticable, the aid of the chemist should be called in to free the indigenous tobacco of its excessive proportions of nicotine, replacing this poisonous principle with a variety of perfuming agents, which would render smoking not only less pernicious, but more agreeable. Lastly, let the public be well instructed as to the relative value of the different sorts of tobacco.

M. Bertillon, in the *Union Médicale*, March 9, supplies some interesting facts in relation to the effects of tobacco on the mental powers, derived from an investigation made at the Polytechnic School in 1855-56. He investigated in 160 of the pupils who had undergone their examination, what influence the fact of their having been smokers had upon the results. As large a proportion as 102 of these pupils were smokers. It was found that in the classification by merit which followed the examinations that, while in the highest series a third or fourth of the pupils were smokers, in the lower series three-fourths and in the lowest series four-fifths were smokers. Again, while among 66 confirmed smokers their mean rank of 94.5 on their entrance into the school had sunk to 98.3, in the case of the 60 pupils who were not smokers their rank of 71 on entrance (already 23 ahead of the smokers) rose to 67.7—being, as the result of nine months' work in common, 30 in advance of the smokers. This result of the inquiry as regards these limited numbers was conformable to the prior experience of the school.—*Med. Times and Gaz.*, March 18, 1865.

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Respiration of Plants.—The researches of M. A. Cahours have led him to the following conclusions: 1. All flowers left in a limited atmosphere of normal air consume oxygen and produce carbonic acid in proportions varying as the flower is scentless or not. 2. The circumstances under which the phenomenon takes place being identical, the proportion of carbonic acid increases as the temperature is raised. 3. Generally, with flowers from the same plant and of equal weight, the quantity of carbonic acid produced is rather greater when the apparatus in which the experiment is performed

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is exposed to the light than when it is in darkness; but the proportion is, nevertheless, sometimes the same under either condition. 4. When the normal air is replaced by pure oxygen the differences become much more marked. 5. Buds produce rather more carbonic acid than fully developed flowers, which is explicable by the greater vitality of the buds. 6. Flowers left in inert gas disengage small quantities of carbonic acid. 7. Finally, the pistil and stamens, which possess the greatest vitality of any part of the flower, consume the greatest quantity of oxygen and produce the largest proportion of carbonic acid — *Brit. Med. Journ.*, Jan. 7, 1865, from *Comptes Rendus*.

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The Position of the Medical Officer considered as a Non-combatant.—M. Chenu, in a most elaborate report on the Medico-chirurgical service of the Crimean war, recently published, makes the following just remarks on this subject:—

"What is the position of the military medical officer? He is looked down upon by the soldier because he is a non-combatant, and yet his true value is only comprehended on the field of battle, in the ambulance, and surrounded by contagion in the Hospital. In the hour of danger he is, indeed, well spoken of. 'The surgeon who succumbs in the performance of his holy duty,' says the *Moniteur de l'Armée*, 'deserves as well of the army of his country and of his sovereign as does the soldier who falls in battle.' But danger once passed, these benevolent reflections are soon forgotten; and yet in what does he differ from the combatant officer? He marches with his regiment or his ambulance to the field of battle, and he is in no wise secured from wounds or even death, his sole distinction there being that he cannot return the blows he receives, since his special functions compel his attention to the wounded who are falling around him. But does he contribute less to the general end all have in view? In the Hospital his position is still more perilous, and there the danger to which he is incessantly exposed has no brilliancy wherewith to stimulate his courage. His energy is expended in obscure struggles, and he is not supported, excited, or intoxicated, either with the ardour of the combat, the incense of the powder, or the exhilarating sound of the trumpet. The enemy which surrounds him is invisible, and he has no means of defence, and is more and more exposed to attacks every day. In the midst of an infected Hospital he must brave the danger of contagion in order to fulfil a sacred duty, and he must regard the prospect of death itself with calmness in order to retain his medical lucidity. It is a dangerous field of battle upon which he falls defenceless succumbing bravely and humbly amidst those whom he has sought to save."

These words are amply justified by the figures which follow. 1. In an effective force of 5852 officers of all grades, there were killed or died from their wounds 779, or 17 per cent. 2. Of officers of all grades in the entire army, comprising intendants, almoners, and various administrators, there died of various diseases 402, or 7.30 per cent. 3. Of an effective mean of 450 medical officers, 82, or 18.22 per cent., died of various diseases. 4. Of officers of all grades there died of typhus 26, or 0.17 per cent. 5. Of army medical officers there died of typhus 58, or 12 88 per cent.

—

Hydrostatic Mattress.—M. Cosmao-Dumenez, in a recent communication to the *Gazette Médicale*, gives an account of the great advantages derived by M. Demarquay from the employment of the hydrostatic mattress during the last five years. It is made of vulcanized caoutchouc by Galante, of Paris, and measures 80 centimetres in length by 70 broad, and when suitably distended with from 26 to 29 litres of water, it is about 1 decimetre in thickness. Its weight does not exceed from 28 to 30 kilogrammes. This is a far more convenient, effectual, and economical apparatus than Arnott's bed, which by reason of the rigidity of its parietes prevents any lateral displacement of the water, and the patient becomes buried in a hole, formed by the elevation of the water on each side of him. In the mattress, all its walls are elastic, and the water displaced by the weight of the body, instead of being only directed towards the upper part of the apparatus, is uniformly dispersed in every direction. The Arnott's bed, too, is large, cumbersome, and expensive, requiring a great quantity of water, and only moved with difficulty. The mattress has been employed with eminent success in the treatment of bed sores, and in fractures of the cervix femoris and pelvis, and it would form an admirable means for the transport of

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the wounded, either in a railway or ordinary carriage. The water, too, with which it is filled may become a convenient means of applying either caloric or cold, as the case requires. Thus, in the aged or debilitated, and in children of weakly powers, warmth may be thus readily applied and long retained, while in inflammatory affections the temperature may be easily lowered. A few minutes suffice to discharge and replace the water.—*Med. Times and Gaz.*, April 1, 1865.

A Victim to Quack Advertisements—Another suicide has occurred among the victims of the quacks, whose obscene and vile advertisements still pollute the pages of some metropolitan, and many country papers. The circumstances are of the type now commonly known. The unhappy man was a corporal in the Guards, and was not really labouring under any disease, but had been deluded into the belief that he was in a desperate state by reading those abominable and lying pamphlets which some newspaper proprietors still consent to be paid for advertising, and so spreading over the country. The evidence showed that at Christmas he wrote to Messrs. Smith & Co., of Burton-crescent or of Tavistock-square, witness did not know which, and received from them a book called the "Warning Voice," of which he read the 3d and 4th chapters. He paid £1 5*s.* for medicine, which he took three times a day. He afterwards became greatly depressed. Witness had often seen him look in a glass, gnash his teeth, stamp his feet, and say, "I feel I am a ruined man for life." He also asked, "What is the quickest death to die?" Witness tried to cheer him up, going with him to various places; and he (witness) was firmly of opinion that the letters he received from Burton-crescent, and his reading of the book referred to, had excited his mind and caused him to commit suicide. Up to that time, deceased had always been a lively, jovial man among his comrades. The occurrence here and there of a suicide such as this leaves only to be distantly guessed at the wide-spread misery, the distress of mind, the moral injury, and the physical suffering due to the system carried on by such men as these. We hope that the recurrence of these striking proofs of the urgency of the appeal which we have made to the conscience of newspaper proprietors throughout the kingdom, will secure final and unanimous adoption of the resolution no longer to soil their pages with the announcements accessory to a traffic of which the profits have been justly denounced as more infamous than those of the slave-trade. We feel assured that public opinion will everywhere condemn newspapers so defiled.—*Lancet*, March 25, 1865.

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Fossil Remains of the Elephant of Malta.—The explorations of Dr. Adams among the cave deposits and alluvial soil of these islands have been lately crowned with such signal success that we think the public would be glad to be made acquainted with the leading facts. It will be remembered that Captain Spratt, the indefatigable and learned hydrographer of the Mediterranean, was the first to bring to light the remains of the remarkable fossil elephant of Malta (*elephas melitensis*) by his explorations in the Zebbug Cave, in 1859. Since that time Dr. Adams has been unremitting in his exertions to discover more traces of this extinct species, and has been fortunate enough to find them in many new localities in Malta. He has just met with its teeth in great quantities in a cavern near Crendi. In another gap, evidently at one time the bed of a torrent, he has found the teeth and bones of thirty more individuals. These skeletons of old and young elephants are met with jammed between large blocks of stone in a way that clearly shows that the carcases must have been hurled into their present situation by violent floods or freshes. He has now brought together almost the complete skeleton of this wonderful little representative of an order of quadrupeds, to which we had, until the fossil Maltese elephant appeared, applied the word gigantic. There can be no doubt, however, that it scarcely exceeded a small pony in height. We hope that Dr. Adams will give a detailed account of his highly interesting discoveries to the scientific world. —*Malta Times*, March 16, 1865.

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Bulletin de Thérapeutique.—This bi-monthly medical journal, established in 1831 by M. Miquel, who, after being attacked with a fatal disease, gave over its management to M. Debout, has again changed hands in consequence of the death of the last named gentleman. Its present editor is M. Bricheleau.

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The following condensed summary of the contents will show the plan of the work, and the completeness with which all portions of its subjects have been treated.

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XX. Congenital Syphilis, p. 616.

We have no doubt that it will supersede in America every other treatise on Venereal.—*San Francisco Med. Press*, Oct. 1864.

A perfect compilation of all that is worth knowing on venereal diseases in general. It fills up a gap which has long been felt in English medical literature.—*British and Foreign Med.-Chirurg. Review*, Jan. 1865.

We have not met with any which so highly merits our approval and praise as the second edition of Dr. Bumstead's work.—*Glasgow Med. Journal*, Oct. 1864.

Indispensable in a medical library.—*Pacific Med. and Surg. Journal*, July, 1860.

We know of no treatise in any language which is its equal in point of completeness and practical simplicity.—*Boston Med. and Surg. Journal*, Jan. 30, 1864.

The only systematic treatise, so far as we know, which ought to have the authority of a guide in the study and treatment of syphilis.—*Buffalo Med. and Surg. Journal*, July, 1864.

A remarkably clear and full systematic treatise on the whole subject.—*London Med. Times and Gazette*, Oct. 29, 1864.

On the subject of which it treats, it is by far the best book in the language.—*Chicago Med. Journal*, August, 1861.

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CLINICS.

CLINICAL LECTURES.

Clinical Lecture on Addison's Disease. By E. HEADLAM GREENHOW, M. D., F. R. C. P., Assistant Physician to the Middlesex Hospital, &c.

GENTLEMEN: Ten years ago the late Dr. Addison, senior physician to Guy's Hospital, published a monograph "On the Constitutional and Local Effects of Disease of the Supra-Renal Capsules." Beyond the fact, which had been revealed by post-mortem examinations, that these organs were liable to inflammation and suppuration, to effusions of blood into their substance, and to cancerous and tubercular degeneration, nothing whatever was known respecting their diseases, or the influence which these exercised on the general health, until the publication of that work. Dr. Addison had for a long period observed, from time to time, cases evidently belonging to the same class, characterized by very remarkable symptoms, and to which, for want of a perfect knowledge of their true nature, he applied the term idiopathic anæmia. It was in the course of his endeavours to obtain some additional light on this subject that he discovered the relation between these symptoms and disease of the supra-renal capsules, which relation he brought for the first time under the notice of the profession in the work I have just mentioned. Dr. Addison briefly stated these symptoms which he had found occurring in connection with supra-renal disease to be as follows: "Anæmia, general languor and debility, remarkable feebleness of the heart's action, irritability of the stomach, and a peculiar change of colour in the skin." On account of this discoloration of skin, which Dr. Addison at first conceived always to accompany the disease, it was originally named "melasma supra-renale." At a later period, however, Dr. Addison stated, at a meeting of the Medico-Chirurgical Society, that cases might and did occur without any such dis-

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coloration. The newly-discovered malady was nevertheless afterwards called bronzed-skin disease, but has now become generally known by the more appropriate and convenient name of Addison's disease: appropriate because it commemorates the name of the discoverer, in accordance with the custom which has connected the names of Bright and Pott with the diseases which they first recognized, and convenient because it involves no theory as to the ill-understood nature of the disease itself. Dr Addison's book contains the record of eleven cases, some of which he had not seen during life, and several of which were certainly not true examples of the disease now known by his name. Indeed, he appears at that time to have thought that any disease involving the structure of the supra-renal capsules would be accompanied by the symptoms he described. Subsequent observation appears to show that the symptoms peculiar to Addison's disease only occur in connection with that form of disease of the supra-renal capsules which has commonly been called tubercular—a term perhaps not precisely accurate, but which, for want of a better, I shall on this occasion continue to employ. I do not, however, mean you to infer that the deposit found in the capsules in these cases is identical with tubercle as we meet with it in other organs, but only that it has such an apparent resemblance to it, and undergoes degenerative changes of so similar a character, that this term is, in the present state of our knowledge, the most convenient for clinical purposes, more particularly as we find it in a very large proportion of cases occurring in persons of a tubercular diathesis. Evidences of inflammation, afforded by adhesion to neighbouring organs, and by thickening of the connective tissue surrounding the capsules, are, indeed, common in Addison's disease, but are always associated either with abscess or with tubercular affection of the capsules themselves. Abscess—or at least transformation of the capsules into cysts filled with creamy-looking fluid, or with thinner fluid containing flocculi—has been found associated with the symptoms of Addison's disease in a few instances. It appears to me, however, that there are good grounds for believing that in such cases the abscesses have been formed by the softening down of the deposit, and that they are therefore only examples of one form of the ordinary tubercular affection. With the exception of a case reported by Dr. Duclos, a French physician, as one of cancer of the supra-renal capsules (but which from the description and symptoms I am inclined to regard as having been, in reality, a true example of Addison's disease), no single case of cancer of the supra-renal capsules has to my knowledge been reported, in which either the constitutional or external symptoms of Addison's disease were present. Neither, with the exception of the same case, has cancer of the supra-renal capsules, so far as I can discover, ever been reported, unassociated with, or probably otherwise than secondary to, cancer of other organs.

Addison's disease is therefore due to a much more definite affection of the supra-renal capsules than its discoverer himself was aware of; and, as we have seen, the manifestations of its existence during life are clearly divisible under two heads—viz: 1, constitutional symptoms; and 2, external signs.

Having had under my own care during the last few years at least five genuine cases of the disease, and having had the opportunity of watching several of those which were under Dr. Addison's care, I shall now sum up the results of my own personal observations as to the constitutional symptoms and external signs of this singular malady.

I. The constitutional symptoms are: gradually progressive asthenia, often originating without any apparent cause, and seldom dating from any definite period; great languor and indisposition for exertion, with, in advanced cases, breathlessness and palpitation, frequent sighing or yawning, and generally faintness on making any muscular effort, sometimes even on being raised up in bed. There is almost invariably great weakness of the heart's action, and remarkable feebleness of pulse; loss of appetite; irritability of stomach, with nausea; and, towards the close of the illness, at least occasional, often persistent, vomiting. The mind is generally clear to the last, but so great is the prostration in the latest stage of the disease that the patient often lies in a drowsy, apparently semi-comatose state, from which, however, he can be roused by questions, and to these he generally gives pertinent though slow and reluctant answers. The above I should class as the characteristic symptoms of the disease: but there are in many cases pains in the loins, hypochondria, or epigastrium; and, more rarely, dimness

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of sight, vertigo, and, near death, a tendency to incoherence or delirium. Death takes place from asthenia, and often rather suddenly. It is a remarkable fact that, notwithstanding the great debility, which is the earliest and constant symptom of the disease, there is, in uncomplicated cases, comparatively little or no emaciation. The skin also is soft and cool; the tongue usually clean and moist until the last days of life; the bowels seldom disordered, though sometimes confined; and the urine generally normal. It should be observed that the constitutional symptoms of this malady have been sometimes masked, or at least overlooked, in cases in which the patient has been contemporaneously suffering from some other serious wasting disease, such as phthisis or lumbar abscess; but even in such cases the languor and prostration are for the most part out of all proportion to the severity of the more obvious complaint: a circumstance well illustrated by a case I shall presently quote, which was under the care of Mr. Hulke some time since in this hospital, and in which—partly no doubt on account of the complication with psoas abscess, partly also from the absence of discoloration of skin—the affection of the capsules was not suspected during life.

II. The external signs of Addison's disease are found in the discoloration of skin, which, when present in a fully developed form, is, I need scarcely say, its most striking feature. It is true that in a recent case in this hospital, in which the discoloration was very slight, I ventured to diagnose the disease on the strength of the constitutional symptoms, and that diagnosis, as you well know, was verified by the post-mortem examination; but, as a rule, this external sign has been the main ground on which this disease has been hitherto diagnosed. The discoloration of skin in Addison's disease is very peculiar, and gives to the patients in whom it is well marked the appearance of belonging to one of the darker races of mankind. Most frequently it is of a dusky-brownish or yellowish-brown hue, but sometimes rather of an olive or greenish-brown colour. The shade is not uniform on all parts of the body, but is generally darker on the face, neck, and hands, and in the axillæ and groins. The penis and scrotum and the nipples and areolæ are usually the darkest parts, and the discoloration of these last may be regarded as one of the diagnostic external signs of Addison's disease. If the patient have been blistered, or have sustained any other superficial abrasion of the skin, the injured surfaces are always darker than the surrounding parts, but the cicatrices of deeper injuries usually remain pale.

Very often, also, small, well defined specks or patches of darker colour, resembling moles, are found upon the face, neck, arms, or trunk; but, so far as I have observed, they only appear on the already discoloured parts. Although the discoloration is generally most marked on certain parts of the body, and may even exist on some parts while the skin of other parts is of the normal hue, there is rarely, or never, any definite line of demarcation between the discoloured and normal portions of the skin; but the former fade insensibly into the latter. The characteristic discoloration is not restricted to the skin, but in well-marked cases is also usually found upon the lips in the form of an irregular stain running lengthwise, and upon the gums and buccal mucous membrane in the form of stains or patches: this last may indeed, perhaps, when present, be considered as the most decisive of the external diagnostic signs of Addison's disease. It is, on the other hand, important to remark that the conjunctivæ always remain uncoloured, and in the more deeply discoloured cases their pearly whiteness presents a striking contrast to the dusky hue of the face. I may mention, by the way, that this discoloration of the gums and buccal mucous membrane affords another analogy between the discoloration of Addison's disease and the natural colour of the darker races; two Hindoos who were hospital out-patients of mine having presented dark stains on those parts, exactly resembling the stains found in cases of Addison's disease. Moreover, in one of them I noticed that some superficial cicatrices were of a darker shade than the surrounding integuments.

We have had in the hospital during the last year two well-marked cases of this rare malady; one in April last, and the other quite recently. The first of these well illustrates both the constitutional symptoms and the external signs which I have just described.

W. B——, aged twenty-four, an engineer's labourer, first came under my observation on the 12th of April, 1864, when he was admitted into Cambridge ward, under my care. He stated that he had been in

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good health until about nine months previous to his admission, when an abscess had formed in the left hypochondriac region. A few weeks later, after the healing of the abscess, he had been seized with severe pain in the left hip, shooting downwards along the course of the sciatic nerve; and the pain had continued with varying intensity ever since. About the same time he had begun to lose strength, becoming very rapidly weaker during the last ten days. He had for some weeks lost his appetite, and had been affected with nausea and occasional retching, with, for the last day or two, vomiting of food. He said that he had suffered latterly from sudden attacks of breathlessness and faintness on exertion; and he actually fainted while under examination in the waiting-room. His face had a sunburnt appearance, and his wife and mother on being questioned said that they had observed his complexion becoming darker for the last three or four months. From the above symptoms I at once diagnosed a typical case of Addison's disease.

On the day after admission the patient could with difficulty be raised up in bed on account of tendency to faintness. Pulse extremely feeble, small, and compressible; the heart's impulse feeble, and sounds exceedingly faint; the skin cool and soft; the tongue moist and clean; the urine dark-coloured, acid, copious, free from albumen, specific gravity 1022; the bowels costive. General hue of the skin dusky; the face somewhat darker, resembling that of a person bronzed by exposure; the back and sides of the neck darker than the face; the hands much darker than the arms, and the knuckles sensibly darker than the surrounding surface, as were likewise the cicatrices of several former injuries. The skin over the spine, for nine inches downwards from the eighth dorsal vertebra, was much darker than the rest of the back. Over the left hip, where a blister had been applied four months previously on account of the sciatic pain, was an oblong surface, four inches by five, much darker than any other part of the body. At some parts near the edges and centre of the patch, where apparently there had been superficial ulceration, the skin was nearly as black as that of a negro. The nipples and areolæ were very dark. The cicatrix of the abscess in the left hypochondrium was itself pale, but was surrounded by a dark-coloured ring. The penis and scrotum were extremely dark; the thighs and legs much less dark than the body. The lips had a dark, almost black, stripe of varying breadth extending along their whole length. The buccal mucous membrane, with the exception of a few paler spots, was also of a dark, almost black, colour; and there were several well-defined dark-patches on the gums of the lower jaw. The conjunctivæ were clear and perfectly white. The patient became progressively weaker from day to day; vomiting recurred after almost every meal; the pulse became quicker and nearly imperceptible; the heart-sounds were only audible on very close examination; the sense of faintness was constant and intense; and the surface of the body became cold to the touch two days before death, which took place five days after his admission. His intellect remained unimpaired to the last.

At the post-mortem examination, the body was spare, but not much emaciated, and its general hue dusky, but paler than it had been during life. The muscles were of a normal red colour; the blood thicker and darker than usual, presenting under the microscope an excess of red corpuscles. The lungs were quite free from tubercle. Many of the mesenteric glands were enlarged; their surfaces were pale and yellow, and on section they had a somewhat dry, cheesy texture. The vessels of the small intestine were much congested. Peyer's patches were enlarged, prominent, of yellowish-white colour, and remarkably opaque. The solitary glands scattered throughout the ileum were also enlarged. The supra-renal capsules were closely invested with very dense connective tissue, and were both much enlarged; they were of very firm consistence, and on section no distinction was visible between cortical and medullary substance, the whole organs being converted into masses of firm, yellowish-white tissue, in parts semi-transparent. Scattered throughout these masses were numerous opaque yellow deposits, varying in size from a hemp-seed to a small bean, of cheesy consistence, mixed with grimy matter. On laying open the pelvic fascia at the upper edge of the true pelvis on the left side, about half an ounce of thick, creamy-looking pus escaped. The abscess was connected with carious bone at the sacro-iliac synchondrosis.

You will have noticed in the case I have

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just read the presence of almost every one of the constitutional symptoms which I have enumerated above as being characteristic of Addison's disease; and although the asthenia appears to have supervened contemporaneously with the sciatic pain, the latter could not even during life be considered as its cause, it being altogether insufficient to account for the severity of the symptoms. Again, with reference to the external signs, you will have seen that this case presented all those which I have described as specially diagnostic of the disease: the face, neck, and hands were darker than the general surface; the areolæ, penis, and scrotum were the darkest parts of the natural skin, and the cicatrix of the blister on the hip was almost black, whilst the deep cicatrix of the abscess remained pale; lastly, the lips and buccal mucous membrane were deeply discoloured with the characteristic stains.—*Lancet*, April 1, 1865.

(*To be continued*)

Clinical Remarks on Cataract. By HAYNES WALTON.—In the course of remarks on several patients with cataract who were in attendance, Mr. Walton drew attention to the formation of cataract, the mode of its progression, and the proper period for an operation. He rebutted the idea that the first symptom of cataract, that by which the disease could be first recognized, was to be detected by impaired vision, and showed that, although to the person afflicted this subjected evidence must be the first, the loss of the transparency of the lens whenever it occurred in striæ, or dots or patches of any kind, might be seen with the ophthalmoscope before there was any appreciable deterioration of sight. He had proved this many times. The power of such recognition cleared away much of the difficulty of distinguishing between the causes of the commencement of impaired vision, which was so very perplexing up to a recent period, and enabled us to say whether the visual disturbance was or was not due to cataract.

The rate of the progress of cataract was commented on, and the advantage of prognosis, if it could be made out, especially to the patient, as it usually involved one of the very anxious subjects surrounding him, and the surgeon seldom escaped the question, "How long will it be before I am blind."

He had for many years watched cases with the view of solving the question, and these were his conclusions: There were no marks or signs by which it could be told in any individual case what would be the ratio of increase, and, therefore, when vision would be lost; and this would be more difficult in proportion as the attack was more recent. The reason of this is simply because there is not only no uniform rate of progress, but because exceptionally there may actually be an arrest of increase for months or years. All he could say was only in the way of generalization and to the effect that cataract progresses much more quickly in early life than in old age, and that at all periods of life it is more quickly developed when the lens has been uniformly pervaded by haze or opacity than when striæ or spots appear. Illustrations were mentioned to confirm these statements. In some, after the lapse of from ten to fifteen years, the cataract had not sensibly increased, or but just perceptibly augmented. As still more sure evidence of the fact that cataract may go to a certain limit and not increase, was adduced the partial implication of the lens in some of the forms of congenital cataract, and the persistency of this state during a long life.

The state of vision, according to the degree of cataract present, was next examined, some curious results mentioned, and some circumstances difficult to be explained were adduced. It would seem from what we could gather that it would be impossible to tell from a mere inspection of a cataractous eye, supposing always the rest of the eye to be sound, what is the degree and quality of the sight. In almost every case, with even very partial opacity, the distant vision is impaired, but not necessarily the near sight; and in many old and elderly people the near vision is very much improved, and short-sightedness is supposed to have come on. Those who have worn spectacles for years are now able to read the smallest print without them, and all together throw them aside.

Mr. Walton said that conversant as he was with this condition of things, he had been from time to time puzzled with cases that were in extreme. Now, and then, when for the first time he looked at a case, he would think there could be no definite sight, and a trial has astonished him; but he was quite amazed with the following example: A gentleman, aged 55, who had had remarkably good far sight, and good

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near sight with common spectacles, applied to him for an explanation of certain optical changes. He examined his eyes, told him that cataract was present, and advised an operation on the right, that in which the lens was most opaque. The gentleman asked for a book in fine print, and read it readily with either eye without his glasses. For two years he had put these appendages aside, as he did not need them for any minute objects. His distant sight only was affected, and he could not recognize his friends across the street. He laughed at the idea of an operation. The gentleman kindly consented to allow some of Mr. Walton's friends conversant with eye disease to examine him; and all were deceived in their diagnosis about the sight, not only on account of the density of the opacity that occupied the pupil, but the impossibility of illuminating with the ophthalmoscope the right eye in any degree, and the very slight amount of light that entered the second. No one could solve the riddle.

Mr. Walton begged his hearers to note that among the practical lessons to be drawn from the several topics that had been brought forward was the important one of not operating in any case of cataract by anticipation; that is, before the patient had lost all useful vision—not before his avocations in life were interfered with, or the interruption to sight was sufficient to produce positive discomfort. He based the rule on the well-known fact that however large may be the percentage of successful operations, that failures do, and must occur. It would be otherwise if by an operation the eye could be restored to perfect integrity. He mentioned an instance in which, just twelve years ago, he prevented one of these operations; and the gentleman about to be operated on is still attending to his professional duties.

We must not omit to notice what was said about the artificial dilatation of the pupil by the use of some of the preparations of belladonna. The improvement to vision that may ensue by the widened pupil in some cases of cataract has been long known. But it is not always possible beforehand to tell when it will be beneficial, as under apparently the same conditions it may or may not be useful. Mr. Walton gave the particulars of several cases—some of them congenital—in which, without the dilatation, there was no useful vision, but with it the smallest type of a newspaper could be read. A trial only could decide the matter, and a trial should be made, for nothing was easier or less hurtful. He knew persons who have applied belladonna twice a week for several years, and by it are enabled to pursue their avocations. It is well to use the least strength that will answer, that the adjusting power of the eye, which is a little influenced while the belladonna is acting, may be affected as little as possible. It is strange that the iris is affected by the belladonna in the same manner by the same strength for any time, and that it quite recovers its natural state whenever it may be left off.—*Med. Times and Gaz.*, April 8th, 1865.

HOSPITAL NOTES AND GLEANINGS.

Amputation through the Knee-Joint—The cases in which amputation through the knee-joint is practicable, Mr. T. P. Pick remarks, are very uncommon, and rarely fall under the notice of the surgeon. The following case is, therefore, recorded as showing the good results which may follow this operation; and also that the great objection—viz., the extensive suppuration which is said to ensue in these cases—is not so formidable as is sometimes supposed.

James F., aged 51, sawyer, was admitted into St. George's Hospital, November 9th, 1864, under the care of Mr. Pollock.

History.—Twenty-five years ago a small pimple appeared on the leg. It increased, and "became like a wart, remaining quite dry," until five years ago, when he knocked it off. Since then, it increased in size, and constantly discharged a thin fluid. Latterly, it increased very rapidly, and the discharge became very offensive.

On admission, the right leg was found to be much swollen; the skin red and tense. Over the front of the tibia, extending two-thirds of the length of that bone, was a large foul ulcer; the edges were very much raised, hard, and nodulated. It appeared, from looking at the edges, to consist of a number of hard uneven nodules, which had burst and ulcerated in their centre, though the greater part of the wound was covered with a foul, uneven, ulcerated surface, supporting pale flabby granulations. Here and there the surface of the tibia could be felt to be exposed and roughened. The glands in the groin were slightly enlarged. The

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patient was thin and emaciated; his countenance pale; aspect anxious; pulse weak and quick. There was profuse and extremely offensive discharge of a peculiar sickly odour.

Nov. 17. Amputation through the knee-joint was performed under chloroform. A large semilunar flap was made on the front of the joint, and was joined by a smaller one on the posterior surface; the various ligaments were then divided, and the limb separated. The patella was not removed. Several vessels required ligature. The flaps were brought together by silver sutures, the anterior one being sufficiently long to completely cover the end of the bone. On examining the parts afterwards under the microscope, well-marked cancer-cells were found.

19th. There was considerable febrile excitement. His tongue was dry and brown; mouth parched; the bowels were not open; pulse 64, weak. There was a little discharge from the wound. He was ordered to have four ounces of red wine; and an effervescing saline draught every four hours.

21st. He still continued feverish; did not sleep. His countenance was anxious. He had no pain, but the stump "felt heavy." The tongue was inclined to be red at the tip. Pulse 72; skin hot and dry; conjunctiva tinged. The bowels had not acted since the operation. He was ordered to have a common enema immediately.

24th. The patient felt very much better. His tongue was almost clean. He slept well, and enjoyed his food. There was some swelling of the stump, and very considerable discharge. The sutures had been removed; and the flaps had separated, leaving a portion of cartilage exposed. He was ordered to have warm Goulard lotion applied.

26th. There was very much less swelling, and less discharge. The wound was quite clean and healthy, and was beginning to cicatrize; there was one small point of cartilage still exposed. He felt very well in himself.

From this time he went on well; the wound healing. On December 17th, the notes say that the wound was nearly healed; one small sinus remaining, which discharged slightly. He was discharged December 21st, with a very good stump. The patella was drawn a couple of inches up the front of the femur; there was a soft cushion over the end of the bone.

There is no doubt that the advantages of this operation, where practicable, over amputation of the thigh higher up, are great. Among them may be ranked the facts, that the limb being removed at a greater distance from the trunk, there is less shock to the system; that the medullary canal not being opened, there is less chance of purulent infection; and that there is a longer stump left; and, moreover, that stump has a somewhat clubbed extremity, thus permitting the more perfect adaptation and the firmer hold of an artificial limb. The principal disadvantage appears to be the leaving behind a certain amount of cartilage and synovial membrane, which must be destroyed by suppuration before the wound can heal. This may be obviated by sawing off the articular extremity of the femur, as is commonly recommended by authors on this subject; but, in this procedure, some of the advantages accruing from this operation are lost.

Of the two operations usually recommended, the one performed in this case appears to possess decided advantages over the one recommended by Syme, of making the large flap from the integuments of the ham; the tough skin over the knee forming a far better pad, and one well adapted for pressure; and at the same time, in the former operation, there is much freer exit for discharge.

It becomes a question whether, in these cases, the patella should be left; but there does not appear to be any object in removing it; for, as in the case under observation, it becomes drawn up out of the way by the extensor muscles, and does not in the slightest degree inconvenience the patient. —*Brit. Med. Jour.*, March 12, 1865.

Blister Treatment of Rheumatic Fever.—Five cases of acute rheumatism have been treated at St. Bartholomew's Hospital, by Dr. Jeaffreson, on the plan recommended by Dr. Herbert Davies of the London Hospital. The cases were of marked severity, the relief afforded was speedy and permanent, the temperature of the body fell rapidly, and in those cases which came into the hospital free from heart complication no cardiac mischief was developed. The safety of the heart is undoubtedly the main point at which every treatment must be

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directed; and in this particular more especially does the blister treatment exhibit its peculiar value. In a communication read Wednesday, March 22, by Dr. Davies at the Hunterian Society, he stated that of 50 cases which had been admitted under his care at the London Hospital 27 had hearts already damaged by recent or old inflammatory mischief, and 23 were free from cardiac complication. The results of the blister treatment in these fifty cases showed that as many as twenty-five, when discharged from the hospital, were totally free from any endo- or peri-cardiac disease; or, in other words, that while every heart was saved which came in sound, two recent cases of endocarditis were apparently cured by the alteration effected, as he believed, in the alkalinity of the blood by the free discharge of serum from the neighbourhood of the inflamed joints. Dr. Davies also states that those cases answer best to the treatment in which a great number of joints are simultaneously affected, and when, by setting up a large amount of discharging surface in the proximity of the inflamed parts, a large proportion of the *materies morbi* may be evacuated at one *coup*. Cases where the poison would appear to crop up to the surface by instalments, attacking the various joints at intervals of days, do not afford such striking examples of the efficacy of the treatment. The first case, where an unexampled amount of blister was applied in an extremely acute case, and where the patient was discharged cured in thirteen days, will well illustrate Mr. Davies' position. That this treatment is not simply local in its action was also shown in the alteration produced in the urine in the majority of the cases cited; for in 11 the urine remained acid, but generally diminished in acidity during the whole period of the case; in 22 it became neutral shortly after the serum was discharged; in 10 it exhibited an absolute alkaline reaction; while in 7 no notes were taken.

Case 1.—William S., aged 22, a working silversmith, and exposed to great variations of temperature, was admitted into the hospital on December 2, the seventh day of his illness, and was discharged cured on December 15, thirteen days after he came under treatment. Eleven blisters, amounting to 482 square inches, were applied simultaneously, and with almost immediate relief. As the patient said, "the rheumatic pains left me as soon as the blisters drew;" and on the third day from admission all pain had disappeared. The pulse fell from 105 to 95 per minute; the temperature from 101.4 to 99.6 and 99.8; no cardiac mischief was developed. The urine, scanty and acid on admission, was rendered slightly albuminous from the presence in it of a small quantity of blood. The slight strangury and albumen, however, disappeared in forty-eight hours. He had slept very badly from the commencement of his illness, but as soon as the poultices were applied to the blistered surfaces sleep returned, and was "good" every night during the time he remained in the hospital. His appetite, bad on admission, was good on the third day; and his thirst, which was slight when he came under treatment, was not increased by the blisters, is reported to be absent on the fourth day. The heart was sound when he came under treatment, and free from disease when he left the hospital.—*Med. Times and Gaz.*, April 1, 1865.

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Varicocele Treated by Permanent Subcutaneous Ligatures. — Obliteration of the spermatic veins for the cure of varicocele is now a frequent operation; but the mode in which the result is effected is modified by different surgeons. Mr. Holt has lately, in several instances in the Westminster Hospital, employed the subcutaneous ligature, which has been left permanently *in situ* with the best effect. We publish to-day a case in which Mr. Heath adopted the same plan with success.

G. W., aged 35, admitted into Mark Ward, December 12, 1864, with varicocele of left side, which had existed some years. Masturbated when a boy, but married at 23, and has had seven children. Has noticed enlargement of left side of scrotum for last ten years, but has had no pain except in very hot weather and when he walks very much.

On admission, the left spermatic veins were much enlarged and the vas deferens thickened. The left testicle hangs much lower than the right, and is softer, but not smaller, than the right.

December 13. Mr. Heath ligatured the spermatic veins subcutaneously in two places. The upper ligature was of silkworm gut, the lower of silver wire. Both were cut close and drawn entirely under the skin.

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15th. Complains of pain in the abdomen and up the cord, but no signs of inflammation present. Veins of cord smaller than before.

26th Able to walk about. Great induration of cord between the two ligatures, which are now buried beneath the skin.

January 3, 1865. Discharged.

February 10. Came as out-patient. The thickening has nearly disappeared, and the veins of the cord appear to have returned to their normal condition. Has no inconvenience from either of the ligatures. —*Med. Times and Gaz.*, May 6, 1865.

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Hysterical Paraplegia.—Annie C., æt. 21, having the teeth much decayed, was admitted into St. George's Hospital Oct. 19, 1864. It was said that she had diphtheria at Christmas, but there was no certainty of this. She had been for five or six weeks, it was said, the subject of "fits," and had had two on the day of admission. These had come on first after she had attended her father's funeral, she having on the day following experienced much numbness and chilly feelings in the legs, which so increased that on the third day afterwards she could not walk at all. She was brought to the hospital in a cab, and lifted up stairs. There was then complete loss of power in moving both legs, and the sensibility of the skin of those limbs at every part below the knees was absolutely wanting; it was not so in any other part of the body's surface. On tickling the sole of either foot a very slight but yet actual reflex action was induced. She asserted that at times the legs were wont to jerk up involuntarily. Her feet were lower in temperature than the other parts of the body. On pressure, the upper part of the dorsal region of the spinal column proved to be tender, and at one spot pain was produced thereby.

The urine was natural, and free from either albumen or sugar. She stated that at times she was unable to "hold the water." This was never so with the alvine evacuations. She was ordered to take ammonia and citrate of iron with aromatic spirits of ammonia, and to be purged, and to have good diet. Four days later she was put upon quinine and iron with one-sixteenth of a grain of strychnia, and the compound galbanum pill (gr. xij) every night. After taking this for four days she expressed herself as decidedly better in the legs, especially across the front of the ankles. The feet were still clammy and cold, and I ordered a hot water bottle to be kept always in bed. The feet did not, however, feel cold to the patient. On the 27th I ordered the legs and length of the back to be galvanized for ten minutes every morning; and three days later, the medicine being continued, the strychnia to be increased to one-twelfth of a grain. During this time she gradually improved, and the power over the legs was so much restored that on November 2, I found her walking about in the ward. She quite recovered in a few days longer as to her legs, but experienced a very severe attack of bronchitis, which kept her in the hospital three or four weeks longer.—*Med. Times and Gaz.*, March 4, 1865.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Medical Society of the State of Pennsylvania.—The following is a list of the delegates elected by the Phila. County Medical Society to the Medical Society of the State of Pennsylvania, which will also hold its sixteenth annual session at Altoona, in Blair County, on Wednesday, the 14th day of June next, at 10 o'clock A. M.

Drs. H. St. Clair Ash, D. H. Agnew, David Burpee, Robert Burns, Charles S. Boker, W. H. Bunn, Joseph Brookfield, John Bell, A. Cheeseman, Joseph R. Coad, J. Cummiskey, Levi Curtis, William Darrach, A. H. Fish, A. Fricke, Lewis P. Gebhard, D. Gilbert, A. G. B. Hinkle, Jacob Huckel, G. Hamilton, N. L. Hatfield, Thomas S. Kirkbride, A. L. Kennedy, R. J. Levis, J. Aitken Meigs, A. S. McMurray, D. D. Richardson, S. R. Skillern, A. M. Slocum, Lewis S. Somers, S. N. Troth, C. P. Tutt, Charles Wittig.

The *ex-officio* delegates from the Phila. County Society are:—

Drs. A. Nebinger, Wm. B. Atkinson, Winthrop Sargent, Wm. Mayburry, Wilson Jewell, and D. F. Condie.

The *ex-officio* delegates from the different sections of the State are:—

Drs. J. D. Ross, Blair County; J. Galbraith, Perry County; Wm. Anderson, Indiana County; J. M. Stevenson, Westmoreland County; J. S. Rich, Bucks County; J. N. Evans, Montgomery County; Trail Green, Northampton County;

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H. Corson, Montgomery County; J. Thomas, Chester County; J. Augustus Ehler, Lancaster County; O. P. James, Bucks County; Geo. F. Horton, Bradford County; P. Wiley, Berks County; L. A. Smith, Susquehanna County; T. C. Yeager, Lehigh County; R. W. Christy, Blair County; J. S. Crawford, Lycoming County; S. Stiles, Perry County; J. Winans, Beaver County; R. Brown, Westmoreland County; T. C. McCulloch, Armstrong County.

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Association of Medical Superintendents of American Institutions for the Insane.—The annual meeting of this association will be held at the Monongahela House in the city of Pittsburg, Pa., commencing at 10 o'clock A. M., June 13th, 1865.

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University of Michigan.—It appears from the catalogue of this institution, for a copy of which we are indebted to Prof. Armor, that the number of medical students during the session for 1864-5 was 414. The degree of M. D. was conferred on 51 candidates.

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Nordamericanische, Deutsch's Medicinische Zeitschrift für Praktische Heilkunde. Zweimonatlich. Herausgegeben von W. Meisburger, M. D., Buffalo, N. Y.—This is the title of a new medical journal, the first number of which appeared in April of the present year. It is to be published at Buffalo, N. Y., in the German language, every two months, in numbers each containing forty-eight octavo pages.

The leading object had in view in its publication is to furnish the numerous German practitioners who are to be met with in the Northern, Western, and some of the Middle States with a journal in their own language, as a medium through which they will be able to communicate their own observations and experience, and through which, also, they may be kept constantly informed of the latest observations and discoveries in the several departments of medicine made by the physicians of continental Europe, especially those which appear in the leading medical journals of Germany.

If well and faithfully edited, there is no doubt there exists ample room for a journal of a character such as it is proposed to make the one before us. Whether it will adequately be sustained by those for whose advantage it has been undertaken, time alone will determine.

All the original articles in the initial number, namely, "on Epilepsy, with especial reference to its occurrence in the female sex;" "on Syphilis;" "on Epididymitis and Orchitis;" are by the editor. They are all very good papers; they are, however, without any great profundity, and present nothing new in respect to either the etiology, pathology, or therapeutics of the several affections of which they treat.

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Obituary Record.—Died, in New York, April 26th, 1865, in the 80th year of his age, Valentine Mott, M. D., justly named the "Napoleon of American Surgeons." Dr. Mott's achievements in surgery have been too numerous, and he has occupied too many and important positions, for it to be possible to give even a sketch of his career within the limits to which we are here restricted; but we trust that some competent hand will furnish the profession with a full biography of the lamented deceased. This is alike due to his memory, and for the credit of American surgery, which owes so much to his genius.

—— In Richmond, Virginia, April 22d, in the 50th year of his age, Dr. Charles Bell Gibson, Professor of Surgery in the Medical College of Virginia, son of Wm. Gibson, Emeritus Prof. of Surg. University of Pennsylvania.

—— At Chicago, April 16th, 1865, of apoplexy, David Rutter, M. D., aged 65, formerly of Philadelphia, but for the last 16 years a resident of the first named city.

—— In Philadelphia, May 12th, 1865, in the 74th year of his age, Thomas D. Mitchell, M. D, Professor of Materia Medica in Jefferson Medical College.

FOREIGN INTELLIGENCE.

Specialists—Mr. J. Hutchinson, Ass. Surgeon to the Royal London Ophthalmic Hospital, in the annual oration before the Hunterian Society for 1864-1865, makes the following just observations in regard to specialists.

"Arrangement and system are undoubtedly the very sinews of success, and at first

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sight it would certainly appear likely that nothing could better tend to economize the labour of medical investigators, and facilitate their researches, than the grouping and classifying of the materials on which they have to work. So far as specialties do represent a reasonable system of classification, so far they are useful to science. Unfortunately, however, it is quite impossible to carry this far. Our existing specialties are chiefly founded on groupings according to the organ or part affected, and this is most arbitrary and unnatural. Were it possible to classify according to cause, an immense aid in the advancement of our art would be gained in so doing; but this would of course presuppose the diagnosis established beforehand. As it is, however, nature and disease persist in declining to allow the human body to be considered as other than one whole, and constantly permit one and the same organ to suffer under the most varied influences. It is needful, therefore, to the successful specialist, as regards any single organ, that he thoroughly understand all the various causes of disease, which may come into operation; and this necessity destroys his character and imposes upon him that general course of study from which he attempts to escape. If he decline this, it is to the injury of his patients, and with peril to the progress of science.

"I need but mention the recent discoveries as to the frequency of syphilitic affections of internal organs, or those relative to the influence of the nervous system in the production of a host of organic maladies, to illustrate what is meant. How is it possible for us to have such a being as an oculist proper and exclusive, when the domain of ophthalmic surgery includes syphilis, rheumatism, gout, scrofula, every type of nerve disturbances that can be mentioned, all the varied forms of cachexia, and requires for its satisfactory pursuit a full knowledge of remedies and their uses in reference to the most infinitely varied conditions of the human body? The special part of ophthalmic medicine and surgery is small, and can very easily be taught and acquired; but the general part is large, and necessitates familiarity with the whole range of pathology and therapeutics. Might I not assert the same of each one of the other permitted specialties in succession?

"Year by year the specialist loses hold of the general knowledge he acquired in early life, and his range of investigation becomes narrower. Not only is he at a disadvantage in regard to the chance of making additions to our knowledge from the arbitrarily restricted kind of facts which are brought before him, but his mind itself suffers in its grasp and power. This latter aspect, is, I think, one of the most serious which the general subject of specialisms presents to us. In allusion to this evil influence of the division of labour, I may venture to quote the sarcasm of an eloquent modern writer: 'We have much studied and much perfected of late the great civilized invention of the division of labour, only we give it a false name. It is not, truly speaking, the labour that is divided, but the men—divided into mere segments of men—broken into small fragments and crumbs of life; so, that all the little piece of intelligence that is left in a man is not enough to make a pin or a nail, but exhausts itself in making the point of a pin or the head of a nail." In making these remarks, it is far from my desire to speak only on one side, or to keep out of view the benefits which our science owes to specialists. In the early stage of any department of knowledge, it is almost a matter of necessity that it should be in the hands of a few. But it is the highest privilege of those who thus devote themselves to the reclaiming of new spots of territory to be able, after a while, to hand them over to the commonwealth, to prove that they are now cultivated and well worthy of annexation. Thus, I trust, we may safely regard all our modern specialisms as serving, though somewhat clumsily, purposes which, on the whole, are useful. Already we discern the approaching success of several of those of oldest growth, and which have been most zealously worked. Their victory will be consummated in their own death as such. It is a mistake in observation to suppose that specialists are of modern invention. Never did they abound more than in the early stages of our profession. In the present day they are on the wane. We have got rid of bone-setters, of water-casters, of worm-doctors. The absurd distinctions between physician and surgeon are fast falling before a general recognition that the two departments are essentially one. Our oculists now spurn the title, and the introduction of chloroform has thrown the practice of operative surgery open to all."

* * * Specialties "may be useful as temporary expedients and for a few individuals,

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but are most injurious both to our patients and to the progress of our science, if they be made permanent or be developed to excess." —*Brit. Med. Journal*, March 25th, 1865.

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Practical Dietary.—Dr. EDWARD SMITH has just published a volume called *Practical Dietary for Families, Schools, and the Labouring Classes.* Dr. Smith urges the distribution among the poor of handbills with the heading "The Cheapest and Best Kinds of Food;" and he supplies the contents. Amongst his directions are such sentences as the following: "If you are very poor, spend nearly all your money on bread. Bread and milk porridge make the best breakfast for husband, wife, and children. Buttermilk is a very good and cheap food. Whey is food, and is a much better drink than water or beer. Every member of the family should, if possible, have two pints of new milk, skim milk, or buttermilk, daily. With plenty of bread and milk there will probably be health and strength, and no doctors' bills. When you can buy Indian corn meal you will find it a stronger and cheaper food than flour. Potatoes are the best of all garden vegetables. Tea is a very dear food. If you are very poor, do not buy any tea, but spend your money in bread and skim milk. When you cannot obtain sufficient milk, and must drink tea, let it be weak, and add as much milk as you can to it; but it is then better to make broth for breakfast and dinner. Hot food is both more agreeable and digestible than cold food. Children, old and feeble people, need hot food more than strong adults. When you are very poor, and have not enough to eat, do not drink cold fluids." The teetotallers may like to know that Dr. Smith is convinced that the use of wine is quite unnecessary in the ordinary conditions of health, and that all the elements which give value to wine, except the alcohol, which has been added to it, are found equally in the so-called light wines and the strong wines of Spain and Portugal; and hence ordinary claret is quite as valuable to the system under numerous conditions both of health and disease as port or sherry. With regard to beer he says: "Whilst we cannot deny to beers the position of foods, it may be doubted whether they are necessary ones, and whether others cannot be found which offer the same advantages at a less cost. It is impossible to regard them as economical foods, whilst as medicinal agents they may have much value, and as luxurious foods they may supply a want in the present state of society."

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Effects of the Constant Galvanic Current.—M. REMAK says, that "The sedative effects of the *constant* current are exceedingly interesting. To produce such effects, in fact, the current must never excite painful sensations. The sedative action produced by this current differs from that of other sedatives; and it may be employed when, for various reasons, the use of opium, belladonna, etc., is objectionable. One of the most striking instances in which the current is of service, is in removing the increased sensibility of an inflamed part. If, in such a case, a positive electrode, of sufficiently extended surface, be applied over the seat of inflammation, and the negative electrode at a distant part of the body, we shall find, in the course of five or ten minutes, that the sensibility of the part has greatly diminished. Thus, for example, in a case of very painful inflammation of the elbow or the wrist, we place the positive pole over the brachial plexus, and the other over the scapula; and we find the pain is soon lessened. Lately, in the presence of MM. Claude Bernard, Velpeau, and Beau, I applied the current in the case of a man who ten days before had struck his knee, and suffered great pain at the inner border of the patella. The pain was so great, that the patient could not walk except with his knee bent. I placed the positive electrode over the crural nerve below Poupart's ligament, and the other pole over the extensors of the leg. In a few minutes, we observed that the joint became less painful, and the extension of the limb more easily performed. The patient was completely cured by three applications of the remedy. Let me remark to all those who would repeat my experiment, that the curative effect depends upon the surface of the elements of the pile; that is to say, that piles composed of small elements must be absolutely rejected."—*Brit. Med. Journal*, Feb. 25, 1865.

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Endoscopy.—On Wednesday, March 15, 1865, at a meeting of the Medical Society of the King and Queen's College of Physicians, held in the new College Hall, Kildare Street, Dr. F. R. Cruise, of the Mater Misericordiæ Hospital, exhibited an "endoscope"

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which he has been using for some time past, and read a short paper explaining its practical utility in the diagnosis and treatment of many obscure forms of disease, especially those of the rectum and urino-genital organs. Dr. Cruise's endoscope is a modification of Desormeaux's, and possesses the great advantage over it of an illuminating apparatus, so brilliant, and easily admitting of such perfect adjustment, that little or no previous training is required to enable the practitioner to obtain a satisfactory view of deep cavities which heretofore have been generally looked upon as quite inaccessible to sight.

Amongst these we may specially mention the bladder and urethra; the rectum beyond the reach of the finger and speculum; the cavity of the cervix, and even of the body of the uterus; the nasal fossæ; the pharynx; cavities of ovarian cysts; abscesses; wounds containing foreign bodies, etc.

Dr. Cruise's paper was enriched by the details of a number of obscure cases in which he had used the endoscope to the entire satisfaction of numerous medical men in Dublin.

Dr. Cruise's improvement in this instrument is the devising of a satisfactory and manageable illumination. He proposes shortly to publish a full account of the instrument and of the results he has arrived at from its use.

Official Account of the Russian Epidemic.—The following extract from the Russian Ambassador's statement to the British Government furnishes some interesting information in regard to the prevailing epidemic in St. Petersburg.

"The origin of this epidemic may be attributed to bad hygienic arrangements; to the consumption of vegetables which have been grown under unfavourable climatical conditions; to the immoderate use of spirits made from grain by the working and lower classes; to an unusual agglomeration of workmen in the capital towards last autumn, which occasioned a considerable crowding in their dwellings—a crowding very baneful to health, especially in the Russian climate. To these accidental causes there must still be added (and this is applicable to all epidemics) the frequent atmospheric variations, especially so common on the shores of the Gulf of Finland. The relapsing fever (*fièvre récurrente*), which made its first appearance towards the end of last August at the rate of five to six cases daily, progressed rapidly. In November there were already no less than 500 cases of disease in the town hospitals; towards the end of January and at the commencement of February the epidemic had reached its height, as many as 150 persons being taken to the hospital in one day, and if we include the cases of ordinary typhus and other severe diseases the number arose to 250 and even 300 per diem. We must, however, observe that this last number does not give the exact number of the sick, as for many days during the time requisite for preparing temporary hospitals numbers of sick had to remain in their own domiciles. During the last week the number of cases of relapsing fever (*fièvre récurrente*) has considerably diminished, and the petechial typhus, the typhoid fever—to which the relapsing fever often turns in its second paroxysm—takes the place of the relapsing fever. At the present moment the average total admission into the town hospitals is from 100 to 150 per diem, including the petechial typhus, or typhoid fever, and other severe maladies. As regards the symptoms, the relapsing fever (*fièvre récurrente*) has shown itself under two forms—a simple form and a bilious form. Premonitory symptoms are always observed: the persons attacked have a shivering fit, sometimes two attacks at a short interval, sometimes a continuous attack. When the attack is over the patient is much prostrated; he complains of headache, thirst, sickness (*mal au cœur*), and want of appetite; vomiting occurs at times; the patient is generally constipated; the prostration then increases, and he suffers extreme pain in the extremities; however, these latter symptoms might not appear or might diminish in a short time; they are neither permanent nor constant. Generally speaking, this period of incubation is not of long duration; often after twenty-four hours only the disease displays itself in most distinct characters. The face has an altered appearance, the lines are depressed, the colour of the face red with some and of a gray yellow with others; is sometimes icterical; the skin is hot and dry, the head heavy and burning. If a thermometer is placed under the armpit of the patient it marks 30 deg., 40 deg., and 41 deg. C., and this temperature is nearly the same all over the body. The tongue is generally moist,

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never quite dry; red at the edges and point, it is furred at its base. In the greater number of cases respiration is perfectly free, while in others the patient has a slight cough without much expectoration. The abdomen is not much swollen, yet it is sensitive to touch, especially under pressure of the left hypochondrium. The liver is much larger than in a natural state, as it often extends as far as the navel, and completely occupies the left hypochondriacal region. The spleen is constantly enlarged. The invalid does not eat, and even shows disgust for every species of food, but he has intense thirst; the bowels are loose, and the motions do not show anything extraordinary; they are rather liquid than solid; the urine, passed without difficulty, is slightly acid, at times albuminous. The patient, much prostrated, is taken with giddiness, and cannot stand upright. The pulse is weak and slow; from 100 pulsations it reaches 130, at the rate of 140 pulsations per minute. Delirium very seldom occurs. The state which we have just described lasts four, seven, and even ten days; the patient then begins to perspire copiously, and that perspiration, accompanied by a most marked diminution of all the symptoms, continues sometimes from twelve to thirty-six hours; but the prostration remains the same, and the twitches of the muscles continue unabated This state continues for many days, when suddenly cold ensues, followed by shivering fits, and they are followed by all the symptoms above mentioned, and torment the patient for many days more. Yet, generally, this second attack is not so violent or so long as the first, and the patient enters into a state of convalescence. The convalescence is very slow. Very often the patient has one or two relapses, apparently less violent, but leaving him in a most prostrate condition. In some rare cases death occurs in the first paroxysm—that is to say, before the second attack of shivering, consequent upon a cerebral or pulmonary hemorrhage, or from acute meningitis, or from paralysis of the heart (Dr. Hermann, Aboukhoff Hospital). Later, the patient dies either from inflammation of the lungs, or rather from a stasis in the lungs, or from an abscess in the spleen or loins, flux from the bowels, or hydropsy. At the workmen's Hospital extensive phlegmons of the trunk and extremities have been observed, with suppuration of the inguinal glands, often resulting in death. Recently (as already previously observed) the relapsing fever at its second paroxysm has turned into typhus or typhoid fever. The second form of the malady—bilious relapsing fever—*La fièvre récurrente bilieuse*, may arise from the first just described; however, it shows itself at once. From the first day the patient is in an icterical state, he vomits bile, and has fearful headache. He becomes delirious, and remains in a prostrate state. This very dangerous condition does not always end in death, but convalescence is always slow. The autopsy has always shown that the seat of the malady is in the organs of the abdomen, especially in the spleen and liver, which are always greatly enlarged and completely changed; sometimes the kidneys are also affected by this inflammation; a catarrhal affection of the mucous membrane of the stomach and bowels is also observable, which sometimes reaches the mucous membrane of the biliary channels, and which occasion icterical phenomena during life. Moreover, in complicated cases the results are found of inflammation of the lungs, of suppurative pericarditis and of hemorrhage into the tissue of the spleen, even with the rupture of that organ. Men are more subject to the malady than women. The workmen who are addicted to drink have been chiefly victims to it. As yet no treatment suitable to every case has been discovered; the physician who turns his attention to the fever and to the state of the abdominal organs succeeds best."—*Med. Times and Gaz.*, April 22, 1865.

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Scottish Registrar-General's Report.—The Registrar-General observes that there was nothing in the meteorological phenomena of the year 1864 to account for the great epidemic of typhus which prevailed. It attacked large masses of the people in the early months of the year, abated in the warmer season, but again resumed its virulence in September, and increased more and more till the year closed. The epidemic appeared among the people while in the midst of plenty, plenty of work, high wages, and cheap food being the characteristics of the year. The town where the demand for labour has been greatest and wages highest, and in which there need not be a single person idle—viz., Greenock, has been the town where typhus has been most virulent

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and fatal, causing above 14 per cent. of the deaths of the year, including among its victims four of the medical practitioners. Taking the experience of the Royal Infirmary of Edinburgh—namely, 1 death in every 12 cases of this epidemic, above 7 per cent. of the population of Greenock must have been attacked with typhus fever in 1864. But Greenock is shown by the register year after year to be by far the most unhealthy of the eight principal towns of Scotland, if not the most unhealthy town in Scotland. The inhabitants have to contend with two adverse causes which tend to induce predisposition to attacks of epidemics—a low-lying, damp site, and greatly overcrowded dwellings, the house accommodation not keeping pace with the increase of the inhabitants. The report has to record an extremely unhealthy year; but smallpox was happily less prevalent than in 1863, and the new compulsory Vaccination Act is working much better than was anticipated. —*Brit. Med. Jour.*, March 12, 1865.

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Increased Salubrity of Paris.—The following statistics of the diminished mortality in Paris extend over a period of twenty-four years. In 1841 the population of twelve parishes amounted to 935,000 persons, and one death in 36 is proved. In 1864 the number of deaths was one in 40. Wide streets and open boulevards have replaced the narrow passages and crowded courts of old Paris. Also there is an immense increase in the quantity of water. In 1840 65,000 cubic *mètres* were distributed in twenty-four hours, whereas in 1863 133,258 cubic *mètres* were supplied. In 1840 there were 36,000 *mètres* of sewers, whereas in 1863 the sewers of Paris attained the surprising length of 350,000 *mètres*—that is 90 leagues. Another cause of the increased salubrity of Paris is the immense number of squares and open gardens created for the use of the people.

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Increased Value of Life in France.—In 1806–9 the average duration of life was —in males, 30 years 6 months; in females, 32 years, 7 months; mean, 31 years, 6 months. Now, in 1865, it is calculated that males on the average live 33 years, 4 months; and females, 36 years, 4 months; mean, 34 years, 10 months.—*Brit. Med. Journ.*, March 12, 1865.

The Origin of Wine-Ferments.—M. Bechamp shows: 1. That the presence of air is not necessary either for the development of the ferment or for the commencement of the vinous fermentation, and that the grape brings everything necessary for the perfect accomplishment of all the phenomena. 2. That the surface of the grape may carry the sporules and globules of the ferment. 3. That the stalks and leaves of the vine may carry the same organisms on their spores, which may, in fact, be met with on various parts of other vegetables. The author found, by experiment, that he could set up fermentation in a solution of sugar, by introducing grape stalks and vine leaves, and also by the petals of the red poppy. A microscopic examination of the waxy matter on a ripe grape, he says, reveals the presence of organized bodies identical with those produced in fermentation.—*Brit. Med. Journ.*, Jan. 7, 1865.

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Prizes.—The French Academy of Sciences has given the following prizes: 1000 *francs* to M. Balbiani, for his Researches into the Constitution of the Germ in the Animal Ovum before Fecundation; 1000 *francs* to M. Gerbe, for his Researches concerning the Reproduction of Kolpodes; 500 *francs* to M. Sappey, for his Researches into the Structure of the Ovary; 2500 *francs* to M. Zenker of Erlangen, for his work on Trichiniasis; 2500 *francs* to M. Marey, for his work on the Circulation of the Blood; 2500 *francs* to MM. Martin and Colineau, for their treatise on Coxalgia; 1000 *francs* to M. Ollivier, for Clinical and Experimental Researches on Saturnine Albuminuria; 1000 *francs* to M. Lemaître, for his Researches into the Properties of Atropine and Daturine; 1000 *francs* to M. Willemin, for his Experiments on Cutaneous Absorption in Baths; 1000 *francs* to M. Lancereaux, for his Pathological Researches on Cerebral Thrombosis and Embolia; 1500 *francs* to M. Grimaud, for his Hygienic Researches; 5000 *francs* to M. Roussel, for his History of Pellagra; and 2000 *francs* to M. Costallet for the same subject.

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Obituary Record.—Died, in London, on the 3d of April, 1865, Dr. F. W. Mackenzie, in the 49th year of his age. Dr. M. was physician to Queen Charlotte's Lying-in Hospital, and one of the first Fellows of the Obstetrical Society.

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TOYNBEE ON THE EAR—Now Ready.

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THEIR NATURE, DIAGNOSIS, AND TREATMENT.

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CHAPTER I. Introduction—Mode of Investigation—Dissection. II. The External Ear—Anatomy—Pathology—Malformations—Diseases. III. The External Meatus—Its Exploration. IV. The External Meatus—Foreign Bodies and Accumulations of Cerumen. V. The External Meatus—The Dermis and its Diseases. VI. The External Meatus—Polypi. VII. The External Meatus—Tumors. VIII. The Membrana Tympani—Structure and Functions. IX. The Membrana Tympani—Diseases. X. The Membrana Tympani—Diseases. XI. The Eustachian Tube—Obstructions. XII. The Cavity of the Tympanum—Anatomy—Pathology—Diseases. XIII. The Cavity of the Tympanum—Diseases. XIV. The Mastoid Cells—Diseases. XV. The Diseases of the Nervous Apparatus of the Ear, producing what is commonly called "Nervous Deafness." XVI. The Diseases of the Nervous Apparatus, continued. XVII. Malignant Diseases of the Ear. XVIII. On the Deaf and Dumb. XIX. Ear-Trumpets and their uses. APPENDIX.

The work, as was stated at the outset of our notice, is a model of its kind, and every page and paragraph of it are worthy of the most thorough study. Considered all in all—as an original work, well written, philosophically elaborated, and happily illustrated with cases and drawings—it is by far the ablest monograph that has ever appeared on the anatomy and diseases of the ear, and one of the most valuable contributions to the art and science of surgery in the nineteenth century.—*N. Am. Med.-Chirurg. Review*, Sept. 1860.

To recommend such a work, even after the mere hint we have given of its original excellence and value, would be a work of supererogation. We are speaking within the limits of modest acknowledgment, and with a sincere and unbiassed judgment, when we affirm that, as a treatise on Aural Surgery, it is without a rival in our language or any other.—*Charleston Med. Journ. and Review*, Sept. 1860.

The appearance of a volume of Mr. Toynbee's, therefore, in which the subject of aural disease is treated in the most scientific manner, and our knowledge in respect to it placed fully on a par with that which we possess respecting most other organs of the body, is a matter for sincere congratulation. We may reasonably hope that henceforth the subject of this treatise will cease to be among the *opprobria* of medical science.—*London Medical Review*, Jan'y, 1862.

It is thorough, yet not tedious in its details. It is comprehensive in its scope, giving it completeness within a moderate compass. It is copiously illustrated with one hundred well executed wood cuts, most of which are new. In fact, the mechanical execution is all that the most fastidious could desire, and the book, in every respect, one of very special merit.—*Ohio Med. and Surg. Journ.*, Sept. 1860.

Mr. Toynbee's numerous contributions to medical literature have, in this his last work, a companion to be proud of. It will certainly become *the* standard work of reference on Aural Surgery. —*Med. Times and Gazette*, April 14, 1860.

Mr. Toynbee has long been recognized as one of the most prominent and successful laborers in this department of science. His investigations have probably done more to illustrate the pathology of the ear than those of all other observers, whether English or Continental, and, therefore, we have looked forward to his treatise on the ear, which has just appeared, with unusual interest. The author states, in his preface, that it is the result of twenty years' labor. It would be strange, if it were not rich with new and valuable matter. We cannot estimate too highly the value of his labors in this direction, and we marvel at the patience and industry which have enabled him to dissect two thousand ears or more. Only a portion of these dissections, however, are associated with the symptoms during life. Still a comparatively large number of observations are given, in which the history of the disease as well as the post-mortem appearances are recorded. This part of his work is its most valuable and original portion. We do not know of any treatise, in English, French, or German literature, where so much and such valuable matter, of the same kind, can be found. This renders his work invaluable. It makes it a mine of wealth, from which future observers will draw illustrations of their studies, and which no student can ever afford to ignore. We think Mr. Toynbee deserves the highest credit for the indefatigable industry with which he has prosecuted the studies of which this volume contains the result and the record. In conclusion, let us express our high estimate of Mr. Toynbee's book. It is one which the student of diseases of the ear cannot afford to be without.—*Am. Medical Journal*, July, 1860.

After a somewhat careful examination, we unhesitatingly pronounce it a most valuable addition to our medical literature. It meets so completely our own wants—a want which we have long felt, that we cannot but think that multitudes of others similarly situated will hail it with equal delight with ourselves and thank us for directing their attention to it. The numerous cases detailed, and the admirable illustrations with which the work abounds, add vastly to its merits, which, together with its decidedly practical character, renders it just the thing for the general practitioner as well as for the specialist.—*St. Louis Med. and Surg. Journal*, Sept. 1860.

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CLINICS.

CLINICAL LECTURES.

Clinical Lecture on Addison's Disease. By E. HEADLAM GREENHOW, M. D., F. R. C. P., &c. (Continued from page 85.)

The other case we have had in the hospital during the year is that to which I have already referred as having been diagnosed independently of the external signs.

On the 20th of January last, E. W——, a girl aged twelve years, was brought to me in the out-patient room. She was scarcely able to move, had an extremely languid, listless, exhausted aspect, a pallid countenance, and a remarkably small feeble pulse. Her breathing was frequently interrupted by sighing and yawning, and the slightest attempt at exertion caused her to retch. Her eyes were large and prominent, and the conjunctivæ peculiarly white. Her skin was cool and tongue clean. There was no cough nor diarrhœa. No other disease being discoverable to account for her extremely asthenic condition, I immediately diagnosed the case as a true example of Addison's disease, though without that marked discoloration of skin which generally accompanies it. On inquiring into her previous history, I learned that she had suffered from bronchitis in July, 1864, on recovering from which she was sent into the country; and I further elicited the fact that on her return home, after an absence of six weeks, apparently quite well, her parents had remarked that she looked somewhat sunburnt, which they attributed to her having been much in the open air. This slight dinginess of complexion still remained, but was insufficient to afford any decisive confirmation of the diagnosis. She had continued without any definite symptoms of illness until a few days before she was brought to the hospital, although her father had regarded her as "drooping" during the three or four previous weeks. On Sunday, Jan. 15, she had been sick for the first time, but had continued to attend

Published monthly by BLANCHARD & LEA, Philad'a, for One Dollar a year; also, furnished GRATUITOUSLY *to all subscribers of the "American Journal of the Medical Sciences," who remit the Annual Subscription, Five Dollars, in advance, in which case both periodicals are sent by mail free of postage.*

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school until Wednesday, the 18th, on which morning the sickness recurred, and she complained of feeling cold. Her mother had then administered a strong cathartic powder, which was followed by copious purging and vomiting, and from that time intense depression had set in. The patient not wishing to come into the hospital, I attended her at home for several days, during which she slightly rallied, the sickness abated, and she was able to take and retain food. On Jan. 24th she began to cough, and expectorated a small quantity of glairy mucus, sometimes tinged with blood; the vomiting returned in its former severity, and she was admitted into Murray Ward on the 26th.

On examination after her admission a slight duskiness was observable, not only on the face, hands, and neck, but also on the abdomen, and about the knees and axillæ; the nipples also appeared slightly dark. On examining the mouth minutely I detected a single dark stain, of the size of a large pin's head, upon the mucous membrane lining the inside of the right cheek, but no other definite patch or stain was found on any part of the body. There was slight dulness on percussion and bronchial breathing below both clavicles; but she had scarcely any cough, and no expectoration after her admission into the hospital. The asthenia, however, increased; she always vomited soon after taking food; and retching, faintness, and failure of the pulse came on whenever she was moved. She scarcely slept at all, became very restless on the 27th, and died rather suddenly on the evening of Jan. 28th, retaining her consciousness to the last.

At the post-mortem examination the aspect of the body was that of a person with a naturally dark skin, but with fair chest, feet, and legs. There was a moderate amount of fat on the thorax and abdomen, and the muscles were firm and red. The apices of both lungs were puckered on the surface and consolidated by the deposition of tubercle, chiefly of the gray semi-transparent kind. There were no cavities, but the tubercle was beginning to soften at one or two points in the right lung. There were also two or three small masses of gray tubercle in the lower portions of both lungs. Nearly colourless clots of moderately firm consistence were found in all the cavities of the heart, adhering to the musculi pectinati and chordæ tendineæ, and extending into the great vessels. There were a few small reddish patches of congestion near the pyloric extremity of the stomach. In the lower part of the ileum Peyer's glands were more prominent than usual, and the mucous membrane was somewhat congested. The solitary glands were also enlarged, and a few of them were opaque and slightly yellow. The supra-renal capsules were both much enlarged and their fibrous envelopes thickened. The right capsule was firmly adherent to the liver, kidney, and diaphragm, and the left to the kidney and diaphragm. Both capsules were hard and somewhat nodulated; and, on section, no trace of the normal structure could be discovered, nor any distinction between cortex and medulla. The natural substance of the organs was chiefly replaced by masses of opaque yellow matter, partly of cheesy consistence and partly friable, separated from each other by a grayish semi-transparent tissue of tough consistence. Beneath the thickened fibrous envelope of the right capsule was a small collection of puriform fluid. The disease was apparently less advanced in the left than in the right capsule, there being a larger portion of the grayish semi-transparent tissue and smaller deposits of the cheesy material in the former than in the latter.

In this case you will remark that the constitutional symptoms, although equally severe, if not more so than in the case previously narrated, had set in suddenly only a very short time before death, instead of coming on gradually during some months. You will observe, moreover, that the discoloration, although strictly characteristic as far as it went, even to the single pin's head stain on the buccal mucous membrane, was so much less advanced than it was in W. B———'s case, or than it generally is in conjunction with the latest stage of the constitutional symptoms, that it failed to attract my attention until I sought for it in order to confirm the opinion I had already formed. Nevertheless the fact remains, which in the present state of our knowledge of the disease I cannot pretend satisfactorily to explain, that, in spite of these discrepancies between the two cases during life, the supra-renal capsules were found after death in an almost identical state of degeneration.

In striking contrast to the case of the girl E. W——, was that of a woman, Mrs. W——, aged thirty-one, who came under

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my care several years ago as a patient at the Western General Dispensary. In her case the most obvious and striking feature was the intense and characteristic discoloration of skin, which led me at first sight to diagnose Addison's disease, even before inquiring into the constitutional symptoms. She attributed her illness to a strain received in turning a mangle five years before, when she fancied that something gave way in her right side, and she was laid up in bed for some days with severe pain in the right iliac region. From that time she had never been robust; but began to droop more decidedly three years later; became worse in September, 1858, and presented herself at the dispensary in January, 1859. She had suffered from occasional pain in the loins, sickness, and vertigo. Her skin was cold and appetite bad. The pulse was under 80, and excessively feeble; the heart's action feeble, the lungs apparently healthy, but the respiration feeble. The catamenia had been irregular, and there were signs of extreme anæmia, the lips being livid, the gums blanched, and the tongue pale. The whole uncovered surface of the skin had a dusky hue, as if from greenish pigment; but the discoloration was not of uniform shade, and was most evident upon the forehead, temples, and sides and back of neck. On the sides of the face and neck and on both arms were several almost black spots, with well defined margins, resembling nævi, but which the patient assured me had appeared within the last three months. The discoloration on the body was less deep, and, with the exception of some dark patches in the dorsal region, more uniform in shade than that on the face and neck. There was an ill-defined, dark-brown line along the red portion of the lower lip, near the margin of the skin; the buccal mucous membrane on both sides had a sallow hue, with several distinct light-brown stains; the conjunctivæ were clear and pearly. The hair had a strikingly dull, dusky appearance, and was said to have become much darker during the few preceding months. She complained of smarting in the darker portions of the face and neck when warm; was very wakeful at night.

From this time she continued to suffer from occasional sickness, vertigo, and pain in the loins; the anæmia and coldness of surface increased; the pulse soon became too feeble to count; palpitation, breathlessness, and a tendency to syncope supervened, and she sank in about two months from the time I had first seen her. For several days before death she was unable to sit up, and had palpitation and retchings on the least movement. A disagreeable fetid odour was observed about her person during the last two days of life. She was conscious to the end.

At the post-mortem examination the whole body was of a dusky mulatto color, but the hue was darkest on the abdomen, and next to this on the face, neck, insides of the elbows, and margins of the axillæ. There was little or no emaciation on any part, and there was a thick layer of fat under the thoracic and abdominal integuments. The muscular tissue was normal in appearance. The lungs were perfectly healthy, with the exception of a very few small yellow tubercles in the apices. The heart contained a large fibrinous clot in the right cavities, extending into the pulmonary artery. The under surface of the omentum, the peritoneal lining of the diaphragm and abdominal parietes, and the peritoneal covering of the liver were studded with small, opaque, yellowish, irregularly stellate and crystalline-looking bodies, which could be readily scraped off the serous surface with the back of a scalpel, leaving the subjacent membrane apparently intact, but slightly opaque. The peritoneal covering of the small intestines was slightly roughened by the presence of small, perfectly transparent granular bodies, closely aggregated upon the serous surface. There were some patches of congestion on the mucous surface of the cardiac end of the stomach, which was otherwise healthy. Both supra-renal capsules were converted into hard yellowish masses. On section the left capsule was found to consist entirely of yellow cheesy matter, apparently tuberculous; the right capsule was in a similar state, but softened at the centre, from which oozed a few drops of thick creamy fluid when the capsule was divided. There remained no appearance either of cortical or medullary substance.

The three cases I have now related not only well illustrate, respectively, though in different degrees of intensity, the constitutional symptoms and external signs of Addison's disease, but also show that on the one hand these symptoms may run through a slow, chronic, and progressive course, extending over several months or even years,

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and that on the other hand the disease may remain latent until near the close of life I say "latent," because it would be contrary to all analogy to suppose that any important change could have taken place in the condition of the supra-renal capsules within the last ten days of life, during which only in the case of E. W——, any definite symptoms of the disease were visible. This occasional latency of Addison's disease, in cases in which the supra-renal capsules must have been disorganized long before the accession of obvious symptoms, is only analogous to what we are familiar with in tubercular disease of the lungs; it being well known that these organs may have become extensively tuberculous, and yet that the process may have gone on so insidiously as not to have caused any outward manifestations. This is indeed what had actually occurred in the case of E. W——, in whom there was considerable consolidation in the apices of both lungs by tubercle, and yet she presented none of the constitutional symptoms of phthisis. It is in these latent cases especially that discoloration of the skin affords the earliest indication of the impending danger. The records of this hospital contain the notes of a case which illustrates even more strikingly than that of E. W——, the occasional latency of Addison's disease until almost the eve of its fatal termination, and also the appearance of the discoloration of skin some time previously to the accession of any of the constitutional symptoms. In the case of E. W——, some slight indisposition had apparently existed during three or four weeks, and the characteristic symptoms supervened ten days before death; whereas in the case I am about to relate the history would appear to show that the patient had continued to feel perfectly well until within four days of death, although his friends had observed the discoloration of skin for several weeks previously.

Y. P——, aged twenty, was admitted into hospital on the 11th of July, 1854, under the care of Dr. Seth Thompson. The colour of his skin had been changing for six weeks, and more rapidly during the last few days. The patient stated that he had first begun to feel languid and unwell two days before his admission; but the feeling increased so rapidly that he was unable to move about when brought to the hospital. Previously to this attack he had always enjoyed good health, had been of sober habits, and well fed. On admission, his skin and conjunctivæ were of a peculiar dark, dirty-brown colour; the skin was covered with a cold clammy sweat, and his pulse was scarcely perceptible. He was restless, and answered questions with difficulty, though perfectly conscious. He stated that the only pain he had was deep seated, and in the region of the liver. The same cold sweat continued, and he died the following morning.

At the post-mortem examination, the body was extremely muscular and well-formed, its entire surface of a uniform and peculiar brown colour; there was slight lividity of the lips and back. The pericardium was firmly adherent, and the whole of the solitary glands of the small intestines were enlarged, forming little solid eminences, the size of millet-seeds. Otherwise the internal organs were all healthy, with the exception of the supra-renal capsules. These were both much enlarged, forming dense solid tumors, nearly half the size of their respective kidneys, but retaining their characteristic form. On section they were seen to be composed of tubercular-looking material—*i. e.*, of an opaque yellow substance, of the consistence of soft cheese. Portions of this substance appeared to be tubercle, as it is seen in the brain; whilst other portions were soft and broken down, like the matter of a scrofulous abscess. In one or two places portions of the natural structure of the supra-renal capsules could be detected.

You will find this case published at greater length in the *Medical Gazette* by Mr. Sibley, about the time when the announcement of Dr. Addison's discovery had excited great interest on the subject among the profession; and I quote it with the more pleasure because it is an example of the great value of accurate clinical observation. To the details of the case no peculiar significance or importance was attached at the time, for the connection between the symptoms observed during life and the local disease found after death was then altogether unsuspected; and yet both the appearance and condition of the patient and the state of the supra-renal capsules were so accurately recorded as to afford strong and impartial corroborative testimony to the existence of that connection when discovered. The apparent cause of the fatal seizure in the above case is not stated; but

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it seems, so far as I can judge, that in these latent cases, when once the local affection has reached a certain stage, any depressing influence may serve to bring on the characteristic constitutional symptoms of the disease, and lead to a speedily fatal result. I believe that the strong purge which was administered by E. W——'s mother, and was followed by such extreme depression, did, in fact, materially hasten her death; and I saw several years ago, in private practice, a case in which over-fatigue appeared to have the same effect. The first attack of depression is, however, by no means necessarily fatal in every case; hence an obvious explanation of the intermissions which occasionally take place in the progress of this disease. You will find in the last volume of the *Pathological Transactions* a case in point, communicated by me, which occurred in the practice of Mr. Charles L. Hodson, of Bishops Stortford. In that instance the patient had several such attacks of extreme depression, followed by temporary rallyings, which were probably due in great part to the favourable circumstances in which he was placed. In the same manner, I think it very possible that, had our last patient, E. W——, come into hospital at once, the faint attempt at rallying which she made during the first few days after she came under treatment, might, with the aid of good food and nursing, have been better maintained, and her life might have been prolonged for some time.—*Lancet*, April 15, 1865.

HOSPITAL NOTES AND GLEANINGS.

Phlegmonous Erysipelas of the Upper Extremity, and Suppuration of the Axillary Glands following a Puncture of the Forefinger; Amputation; Recovery.—The amputation of a limb is often unjustly looked upon as an opprobrium to surgery. But when we consider that the end achieved is the preservation of life, and the removal of a limb whose integrity is destroyed, we think the operation deserves to be classed with the happiest results of conservative surgery. In the case about to be related (from notes by Mr. Alderson, house-surgeon) the usefulness of the limb was gone, and the patient would infallibly have sunk had not amputation been resorted to. A point of interest was that the man was a reformed drunkard. Now Virchow states that the drunkard's dyscrasia does not persist if the cause be removed, and the present instance would certainly seem to confirm that statement, for no one could have exhibited greater reparative power after an operation than did this man,

James G——, aged forty five, a wiry, healthy-looking potman, was admitted into West London Hospital, Aug. 3d. A fortnight previously, he came to the out-patients' room with a whitlow of the right forefinger, produced, he said, by a scratch from some rusty metal. He had formerly been a great drinker, but for the last two years had led a very temperate life. A free incision was made into his finger, which was fully twice its natural size. At his next visit he expressed himself as free from pain, and the inflammation in the finger seemed nearly gone. On Aug. 3d he presented himself at the hospital, and said that a few days ago, when the finger was nearly well, it was attacked with inflammation, which rapidly spread. His countenance was very anxious, his tongue furred, and his pulse quick and feeble. It was evident that he was suffering from great constitutional disturbance. The hand was greatly inflamed, and there were red lines extending along the inside of the limb to the axilla, where a mass of enlarged glands could be felt, and any pressure on them caused him much pain. He was at once admitted into the hospital. A poultice was then applied to the finger, and the entire limb wrapped in hot fomentations. He was ordered a mild purge, and to be well supported with beef-tea and stimulants.

Aug. 5.—The limb had yesterday become so brawney that the house-surgeon made several incisions into it, so that to day the redness and tenderness are much lessened.

9th.—The size of the arm is much diminished, but the skin looks of a dead leaden colour, and it is evidently extensively undermined. The axillary glands are suppurating. The man has lost flesh and looks anxious.

16th.—The skin over the dorsum of the hand and all along the outer side of the limb has sloughed away, so that the extensor tendons are exposed almost as clearly as if they had been dissected out. The man's pulse is weak, and he emaciates from day to day.

19th.—The muscles along the inside of

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the arm are nearly all exposed, the skin hanging in tatters at places. As the man was now in a very precarious condition, Mr. Teevan determined, after consultation with his colleagues, to remove the limb, as the only chance of saving life. Accordingly, the patient was put under the influence of chloroform, and the arm was amputated just below the shoulder-joint, by a long internal flap and a short external one, as the sloughing had extended so much higher on the dorsum of the limb than along the inside. A few hours after the operation the man smiled, and said he was very comfortable and quite free from pain.

20th.—Slept very well last night; tongue clean; appetite good.

From this date he made a most rapid recovery, the wound was healed in three weeks, and he left the hospital at the end of the following month, looking strong and well.—*Lancet*, March 11, 1865.

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Strumous Disease of the Shoulder-joint; Resection; Good Recovery.—Resection of the shoulder-joint is a comparatively rare operation, although we have placed several cases on record where it has been performed in adults with a very fair share of success, indeed more so than occurs with respect to almost any other articulation. In the child it is still more uncommon, but through the kindness of Mr. W. Travers, the resident medical officer, we are enabled to publish the following successful example in a little girl, aged four years:—

C. R——, aged four years, of the dark strumous type, was admitted into Charing-Cross Hospital, the children's ward, on Oct. 10th, 1864, with strumous disease of the right shoulder-joint. The mother stated that about two years since the child had been ill with measles, from which she apparently perfectly recovered. Some two months after the attack had subsided it was noticed that she cried if the arm was roughly handled, and at length could not bear the joint to be moved at all. She also moaned a great deal during her sleep. At this time the shoulder did not appear in any way swollen or inflamed. These symptoms continued for twelve months, the pain evidently becoming gradually worse. The child now, too, became pale, thin, and capricious. At the end of the twelvemonth the joint was noticed to be swollen, but not red; the swelling slowly, yet certainly, increased; the pain was more constant. At the expiration of four months from this time, an abscess formed in the axilla, burst, and discharged freely. The child was placed under medical treatment, but without benefit, and, after remaining eight months longer, gaining no relief, she was brought to the hospital by her mother, and admitted as above.

On admission, the shoulder was found swollen, and the structures apparently thickened; movement much impeded, and causing great pain. A sinus still remained in the axilla, from which exuded a thin sanious pus. The child looked wan and ill; her countenance spoke of constant pain and anxiety. The limb was confined, and kept at perfect rest; and tonics, with good nourishing diet, ordered to be given. Opiates, as far as practicable in so young a subject, were given at night; yet her nights were broken and fitful. This treatment was pursued for upwards of a month; and although the child's general health was very much improved, the disease seemed in no degree stayed, but rather increased. A probe passed along the course of the sinus proved the head of the humerus to be extensively diseased. On Nov. 19th Mr. Canton removed the upper part of the bone, to the extent of about an inch and a half, together with a portion of the glenoid cavity, which was also found to be affected. The horse-shoe-shaped flap was employed. The structures around the joint were found thickened, and apparently in a state of strumous degeneration. But little blood was lost during the operation, and no vessel needed a ligature. The edges of the wound were adjusted, and kept in position by the aid of sutures. A pad was placed in the axilla, and the arm gently, yet firmly, bandaged to the body. No bad symptom followed the operation, and the child slept sounder the first night after than she had done for a very long time. In the course of a few days her appetite improved, and the countenance lost its former constant look of pain. At each daily dressing the wound discharged a small quantity of healthy pus, which gradually became less, and has now entirely subsided. At this date (three months after the operation) the wound has quite healed, and a fair amount of motion is obtainable. The child complains of no pains, and her health is greatly improved. —*Lancet*, March 11, 1865.

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MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

American Medical Association. — This Association held its sixteenth meeting in the city of Boston, on the 6th, 7th, 8th, and 9th of June. The commodious Hall of the House of Representatives was politely tendered by the authorities for the sessions of the Association. The meeting was a very large one, upwards of six hundred delegates having been present.

After the names of the delegates had been registered, Dr. H. J. Bigelow gave them a cordial welcome on behalf of their brethren of Boston. The President, Dr. Davis, then delivered the annual address, after which papers and reports from special committees appointed or continued at the last session being next in order, were called for, and the following were presented:—

On Insanity – Report by Dr. H. R. Storer, of Boston. Referred to the Section on Practical Medicine and Obstetrics.

On the Relations of Electricity to the Causes of Disease—Paper from Dr. Littell, of Pennsylvania. Referred to the Section on Practical Medicine and Obstetrics.

On Climatology and Epidemic Diseases of California—Reports by Drs. Logan, of California, and B. H. Catlin, of Connecticut. Referred to the Section on Meteorology and Epidemics.

On Alcohol and its Relations to Man—Report by Dr. G. E. Morgan, of New York. Referred to the Section on Practical Medicine and Obstetrics.

On Autopsies and their Relations to Medical Jurisprudence—Report by Dr. T. C. Finnell, of New York. Referred to the Section on Medical Jurisprudence.

On the Introduction of Disease by Commerce, and the Means of its Prevention—Report by Dr. A. N. Bell, of Brooklyn, N Y. Referred to the Section embracing Hygiene.

On Exsections and their Relation to Conservative Surgery—Papers by Dr. Tewksbury, of Iowa, and Dr. Lyon. Referred to the Section on Surgery.

On Specialists and Specialties — The Committee were requested to report on Wednesday morning at 9 o'clock.

On the Rank of Medical Corps in the Army—Report by Dr. Tripler, U. S. A. Referred to the general session of Wednesday.

On the Rank of Medical Corps in the Navy—Report by Drs. Anderson, of New York, and others. Referred to the general session on Wednesday.

On Smallpox—Papers by Drs. Ramsey, of New York, and Nebinger, of Philadelphia. Referred to the Section on Hygiene.

Volunteer communications were now called for, and the following papers were presented:—

On Ophthalmology—By Dr. Williams, of Cincinnati. Referred to the Section on Surgery.

Extraction of Foreign Bodies from the Ear and Nose—By Dr. Turnbull, of Philadelphia. Referred to the Section on Surgery.

On Staphyloraphy — By Dr. J. Mason Warren, of Boston. To be read at 3 o'clock P. M. on the 7th, at the Medical College

On Surgery—By Dr. Henry J. Bigelow, of Boston. To be read at the Medical College at 4 P. M. of the 7th.

On the Functions of the Nerves of Sensation and Motion—By Dr. Haskell, of Rockport. Referred to the Section on Anatomy and Physiology.

On Dislocations of the Clavicle—By Dr. Holton. Referred to the Section on Surgery.

The afternoons were assigned for the meetings of the Sections.

On the *second* morning the usual committee for nominating officers for next year was appointed, who subsequently reported the following, and the nominations were confirmed:—

President—Dr. D. H. Storer, of Massachusetts.

Vice-Presidents—Drs. James P. Hibberd, of Indiana; S. O. Almy, of Ohio; T. C. Dunn, of Rhode Island; W. P. Johnson, of the District of Columbia.

Assistant Secretary—Dr. J. E. Morgan, of Maryland.

Committee on Arrangements—Drs. C. C. Cox, W. C. Van Bibler, Franklin Donelson, L. H. Steiner, George G. Miltenberger, William Whitridge, J. E. Morgan, all of Baltimore.

Committee on Publication—Drs. F. G. Smith, of Pennsylvania; H. F. Askew, of Delaware; William Mayburry, of Pennsylvania; W. B. Atkinson, of Pennsylvania; H. R. Storer, of Massachusetts; Caspar Wister, of Pennsylvania.

Committee on Prize Essays—Drs. Austin

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Flint, Sr, Jas. R. Wood, Ellsworth Elliott, E. Krackowitzer, D. C. Enos, all of New York.

Committee on Medical Education—Drs. S. D. Gross, of Pennsylvania; G. P. Twitchell, of New Hampshire; C. A. Pope, of Missouri; O. W. Holmes, of Massachusetts; Grafton Tyler, of Dist. of Columbia.

Medical Literature (present committee continued over)—Dr. Charles A. Lee, of New York; T. F. Rochester, of New York; C. C. Cox, of Maryland; Albert Smith, of New Hampshire; A. Nebinger, of Pennsylvania.

Committee on American Necrology—Drs. C. C. Cox, of Maryland; E. B. Stevens, of Ohio; W. F. Peck, of Iowa; H. Van Dusen, of Wisconsin; Noble Young, of the District of Columbia; Josiah Simpson, of the United States Army; J. C. Weston, of Maine; Henry Bronson, of Connecticut; Henry Noble, of Illinois; Charles Eversfield, of the United States Navy; William B. Fletcher, of Indiana; I. C. Hupp, of Western Virginia; J. Mauran, of Rhode Island; William K. Bowling, of Tennessee; J. P. Fitch, of New Hampshire; James Couper, of Delaware; W. L. Linton, of Missouri; Charles L. Allen, of Vermont; H. G. Clark, of Massachusetts; J. H. Griscom, of New York; E. M. Moore, of New York; Charles A. Logan, of Kansas; Wm B. Little, of California; ——— Stuart, of Minnesota; Henry Miller, of Kentucky; S. G. Armor, of Michigan; William Pierson, of New York; ——— Fleming, of Pennsylvania; E. Wallace, of Pennsylvania.

Dr. Cox, of Maryland, introduced a resolution, which, after discussion, was modified as follows and adopted:—

Whereas, Montrose A. Pallen, whose name appears upon the register as a permanent member of this Association, has been declared, under oath, before the military commission sitting at Washington at this date, to have been in complicity with an attempt to poison the Croton Reservoir, by which the city of New York is supplied with drinking water, thus imperilling the lives of thousands of his fellow-citizens; therefore,

Resolved, That the said Montrose A. Pallen has disgraced his manhood and the humane profession of which he is an unworthy member; that he is hereby indignantly expelled from this body; that the Secretary be required to strike his name from the roll of members.

At a subsequent session an effort was made to have this resolution reconsidered, as having been hastily adopted, and on *ex parte* testimony, which gave rise to considerable discussion, but without success.

Resolutions of respect for the memory of Dr. Mott, Dr. Jonathan Knight, Dr. B. Silliman, and Dr. Charles Hooker were adopted.

The following reports from special committees were presented:—

On the Rank of Medical Corps in the Army—Report by Dr. Tripler, U. S. A. Accepted and adopted.

On motion of Dr. Cox, of Maryland, a resolution was adopted that the committee be continued, and that each member of this Association use his personal efforts with members of Congress to secure a more elevated grade for the entire medical corps in the army.

On motion, it was voted that the report of the committee and the subject discussed therein be presented to the next Congress by the President of this Association.

On the Rank of Medical Corps in the Navy—Report by Dr. James Anderson, of New York, read by the Secretary. Accepted and adopted.

On motion, it was resolved that the committee be continued, and that the same course be taken with this report by the President as was voted to be taken with the report from the medical corps in the army.

The Committee on Prize Essays reported that they had awarded a prize to the dissertation on the Surgical Treatment of Morbid Growths in the Larynx; and on opening the accompanying envelope, it was found that Dr. Louis Elsberg, of New York, was the author.

The premium offered at the last annual meeting for "the best short and comprehensive tract calculated for circulation among females," on Criminal Abortions, was awarded to Dr. H. R. Storer, of Boston.

The report on Medical Education was submitted by Dr. Antisell. Referred to the Committee on Publication.

The report of the Committee on Necrology was submitted, and, without reading, referred to the Committee on Publication.

The Nominating Committee reported a resolution that the several sections shall select the subjects germain to their organi-

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zations, and also appoint the committees thereon.

At the *third* morning's session, on motion of Dr. Burns, of Pennsylvania, a resolution was adopted requesting the sections or committees to which papers had been referred to use special judgment and discretion in assigning such papers to the sections to which they properly belong, and in selecting such as they may consider worthy of publication.

The Association also adopted a resolution giving to the Committee on Publication *discriminating power*.

Dr. Furman, of New York, presented resolutions adopted by the State Medical Society of New York, and referred to the National Medical Society, against newspaper advertising, except merely the card of the physician. The resolutions were laid on the table, to be taken up after the reading of the report of the Committee on Specialties and Specialists, which was specially assigned for this time.

Dr. Julius Homberger, of New York, chairman of the Committee on Specialties and Specialists, presented an elaborate individual report favouring advertising by specialists, and opposing the same course by general practitioners. The report was laid upon the table for the present, and a second report was submitted by Dr. H. R. Storer, of Boston, also a member of the committee, defending specialists, placing them in a high position.

These reports gave rise to considerable discussion, and they were finally referred to the Committee on Ethics, to report on the subject next year.

On the *fourth* morning the following protest was presented against the action of the Association in relation to Dr. Pallen:—

Whereas, The Association has refused by vote to reconsider its action in this behalf, now, therefore,

We, the undersigned, in attendance, while we execrate the crime with which Dr. Pallen stands charged, and would, if his guilt were established, most promptly and heartily vote for his expulsion, do most respectfully protest against the action of this Association, as above recited, on the general principle that all sense of right and justice, as well as the established rules of this Association, demand that no man shall be condemned and punished until his guilt is established. And we desire that this protest shall be placed upon the record in the minutes of the proceedings of this annual meeting.

Signed by Drs. James F. Hibberd, Henry I. Bowditch, Geo. B. Twitchell, and about thirty other gentlemen.

This was referred to a special committee, who made a report in defence of the action of the Association.

The following resolution was offered by Dr. Van Kleek, of New York, and adopted:

Resolved, That this is a National Association, and as, in its earlier days, we enjoyed with pleasure and profit the intercourse with our professional brothers of all parts of our country, and as the unhappy feud which for four years divided the nation has now ceased and peace has again come, we trust forever, so we hope soon again to meet our members and delegates from the South on this platform of fraternization, and to this end we extend to them an earnest invitation and promise them a cordial welcome.

The following by Dr. Bowditch was offered by Dr. Hibberd:—

Resolved, That this Association has learned with deep regret that there are fears of famine and consequent disease and pestilence occurring in some parts of Georgia and South Carolina passed over by Gen. Sherman's army in its victorious course.

Resolved, That this Association would urge upon the Sanitary and Christian Commissions to send agents to learn the exact facts, and, if need be, to take prompt and efficient measures to prevent or mitigate such a distressing result.

Resolutions of thanks were adopted to the medical profession of Boston, the Governor of the State, Mayor Lincoln, the Sergeant-at-Arms and his assistants, the city authorities, the Committee of Arrangements, and the President of the Association, &c. &c.

The Association then adjourned to meet in Baltimore, Maryland, on the first Tuesday in May, 1866.

The members of the Association were treated with the liberal, refined, and generous hospitality so characteristic of Boston. The profession and public authorities did everything possible to render the meeting agreeable, and with the most perfect success.

In our next we shall give an account of the doings of the several sections.

It is but just to our contemporary, the *Boston Medical and Surgical Journal*, to state that the above abstract of the proceed-

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ings of the Association has been mainly compiled from the report in that journal.

—

Medical Department of the University of Pennsylvania.—We are pleased to see it announced that the Trustees of the University of Pennsylvania, sensible that the usual courses of instruction in Medical colleges do not embrace all the branches of knowledge essential to a complete and thorough medical education, have established an auxiliary faculty of Medicine, consisting of the five following professorships, viz: 1. Zoology and Comparative Anatomy; 2. Botany; 3. Mineralogy and Geology; 4. Hygiene; 5. Medical Jurisprudence including Toxicology.

This is certainly a move in the right direction, and it may be hereafter extended we conceive with advantage.

Thus *Physical Diagnosis*, including auscultation, percussion, the use of the ophthalmoscope, laryngoscope and auroscope, should, it appears to us, be included in every thorough course of instruction; so might also be the use of the microscope, the diseases of women and children, and the diseases of the eye.

The professors in the new faculty are to receive a salary of five hundred dollars with the whole of the fees paid for attendance on their lectures.

The faculty are to be elected in November next.

—

Surgeon General Barnes.—We learn with pleasure that this officer, whose rank defined by law, is that of Brigadier General, has had the brevet of Major General conferred on him by the President for distinguished services. This should be regarded not only as a just reward to the individual, but as a compliment to the whole medical staff, whose eminent services have been so seldom acknowledged by the promotion in rank which they have often justly earned, by self-sacrificing, courageous, and meritorious labours.

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Municipal Hospital for Contagious Diseases.—Some years ago, the large building on Bush Hill, originally erected for a yellow fever hospital, and afterwards used for patients affected with contagious diseases, was sold by our municipal authorities, and since that period Philadelphia has been without any suitable accommodations for that class of sufferers. This has arisen mainly from the opposition of those residing in the neighbourhood of the sites selected for such a building. We are pleased to say, that at last a proper hospital has been erected, and is at present occupied. We take the following account of the hospital, from the address delivered on its inauguration by Dr. J. B. Biddle. President of the commission under whose superintendence it was erected.

"The inclosure upon which the Municipal Hospital stands is a square of ground, a portion of a lot situate at the junction of the Lamb Tavern Road and Hart Lane, containing 10 acres and 91 perches, which was purchased by the Board of Health on the 2d of February, 1854, for the sum of $16,000, and subsequently, by the act of consolidation, was transferred to the city. Of this property, an area of 400 feet between Twenty first and Twenty-second Streets, and 500 feet from Lehigh Avenue to Huntingdon Street has been reserved for the purposes of the hospital. The structure consists of a centre 50 feet square and two stories high, with a basement and attic. On the east and west sides are wings, two stories high, each 115 feet in length, and 30 feet in width, thus presenting an entire front of 280 feet. On the south side of either wing runs an inclosed piazza, 12 feet in width, and one-half the length are attics containing separate chambers. Under the entire building is a cellar, nine feet in depth, containing two kitchens floored with slate tiles, and provided with suitable arrangements for cooking and elevating provisions.

"The centre building has four rooms on each floor, eighteen by twenty feet in dimensions with a hall ten feet wide, containing the principal flight of stairs from the cellar to the attic, and a cross entry connecting with the piazzas, thus separating the apartments of the officers from the wards. Each wing contains two rooms on either floor, 42 by 26½ feet in area, and 14 feet in height, furnishing thus eight wards, each readily accommodating twenty beds. In the attics and spare rooms sixty more beds may be placed, and if an emergency should arise the balconies may be fitted up with sashes and beds for a large increase of patients. The wards are separated by rooms twelve feet in width, provided with baths, water-closets, and other necessary conveniences, and through them access to the piazzas,

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furnishing convalescent patients with a long and sheltered walk in the open air. * *

"The interior walls are of brick, and provided with flues from the cellar for thorough ventilation. The wards and bath-rooms are heated by four large cast-iron furnaces, furnished by Mr. B. Hunter, and each room has besides an open grate, materially improving the ventilation. The centre is heated by fire-board stoves, in the first story, which supply hot air to the chambers above. The floors of the wards and halls are oaken, and deafened by a coat of plaster. The roof is mainly slated, excepting the flat parts of the attic, which are covered with a fire and water-proof composition. The supply of water is from a large iron tank in the loft of the main building, to be filled from a 30,000 gallon cistern, and from a well in the cellar.

"A laundry and drying-room, with carriage-house and stable, are placed in a convenient situation on the grounds, which have been graded, and are furnished with a gravelled road."

—

Medico-Chirurgical Society of St. Mary's County, Maryland.—The Physicians of St. Mary's County met in Leonard Town on the 9th of May last, and organized themselves into an association, under the title of the "Medico-Chirurgical Society of St Mary's County." A Constitution and By-Laws were adopted for the government of said Society, and the following officers were elected to serve for the term of one year:—

President.—Thos. J. Stone, M D

Vice-President.—A. Sappington. M. D.

Recording Secretary.—A. J. Spalding, M. D.

Corresponding Secretary.—James F. Thompson, M. D.

Treasurer.—Wm. M. Abell, M. D.

—

Obituary Record.—Died, in this city, May 26th, 1865, Dr. Henry McMurtrie, late Professor of Anatomy and Physiology in the Central High School, in the 73d year of his age.

—— in Washington, June 11, 1865, William Whelan, M. D., Chief of the Bureau of Medicine and Surgery U. S. Navy, aged 56 years.

—— in Philadelphia, May 6th, Wm. Darrach, M. D., in the 69th year of his age.

FOREIGN INTELLIGENCE.

Mr. Syme's Case of Excision of the Tongue.—A correspondent, an intelligent English student in Edinburgh, states that the woman upon whom Mr. Syme operated about eight or ten days ago, did well until the evening of the 23d, when at about 11 o'clock she died. Her death was most sudden and unexpected, Mr. Syme having considered her so far recovered as to request that she should try and leave her bed. It is the fourth case he has had, three of which have proved fatal. On the 24th Mr. Syme operated for axillary aneurism; he first made a small incision above the clavicle so as to admit the finger of an assistant, and thus press the artery against the rib, he then cut into the sac, turned out the clots, and tied the artery above and below the rupture. Mr. Syme is certainly a fearless operator, and a good surgeon.—*Med. Times and Gaz.*, May 27, 1865.

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Bromide of Potassium in Epilepsy.—The bromide of potassium, as a remedy for epilepsy, has been tried by M. Moreau, in the Salpêtrière. Of the 300 or 400 epileptics in that hospital, the youngest patients, and those most recently affected, were chosen for the trial. The treatment was continued for three months, and the dose gradually increased from the first to the sixth week, from half a *centigramme* to three *grammes* in the twenty-four hours. After the sixth week, the three *grammes* were continued up to the end of the treatment. The result of the treatment in fifteen patients was, that in the first category of patients the bromide-salt produced neither good nor harm, the epileptic fits continuing as before. In the second category, the fits were more numerous after, than they were before the treatment. The conclusion, therefore, is that the bromide is completely inefficacious in confirmed epilepsy.—*Brit. Med. Journ.*, April 22, 1865.

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Lead Poisoning.—M. Guibout, of St. Louis, in lead-poisoning, speaks highly of flour of sulphur given in honey. Half an ounce of the sulphur is given during the day. It purges gently, and also directly neutralizes the lead, says M. Guibout.—*Brit. Med. Journ.*, April 22, 1865.

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Diminishing the Contagion of Smallpox by Fatty Inunction.—Dr. WARNATZ, in a communication to the Dresden Medical Society, states that several years since he had demonstrated the great therapeutical importance of fatty inunction in the various exanthemata, and especially scarlatina; but in the present paper he has not so much the treatment of variola in view as the diminution of its contagious power. From the commencement of the eruption to its ending he keeps the parts well saturated with fatty substances, the object being never to allow them to get dry, and thereby prevent the diffusion of the pustular detritus in the air. The patients are well content to pursue the practice, for it much relieves the irritation and hastens desquamation. The worse the cases the more desirable the process, which should also be continued even when a fatal issue is expected. Dr. Warnatz prefers simple hog's lard as the agent to be employed.—*Ibid.*, from *Küchenmeister's Zeitschrift*, 1864, No. 2.

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Excessive Sleepiness of New-born Infants.—Dr. BIERAUM observes that the normal condition of young infants is to sleep much, and that in the inverse proportion of their age. But sleep is sometimes observed in an excessive degree, not as the result of any material affection of the brain, but consisting in a mere functional exaggeration of the natural conditions. From these it is distinguished by its excessive duration and the little desire for sucking which the child manifests; and after the sleep has continued for some days after birth, so far from the child thriving it falls away. He cites the case of a delicate, new-born, full-timed infant, which slept almost continuously during the first ten days after birth, and could only be awaked with difficulty, sucking only rarely and very inertly. Stools and urine were voided in a regular manner, but in small quantity. On the eleventh day the sleepiness began to diminish, and the desire for the breast increased; and the infant grew up to be a child of good mental and corporeal powers. Dr. Bieraum feels surprised that this excessive sleepiness of young infants, which is now and then met with in practice, is not noticed in the books on children.—*Med. Times and Gaz.*, May 27, 1865, from *Journ. für Kinderk.* No. 3.

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Bloody Sweat in Hysteria.—Dr. FRANQUE puts on record the particulars of one of those cases which are every now and then met with in women the subjects of nervous affections. In the present instance, the woman, 45 years of age, had suffered for several years from hysterical convulsions, although menstruating regularly. She had already had three attacks of bloody sweating, which had been preceded by more than ordinary severe paroxysms of hysteria, when Dr. von Franque saw her during the occurrence of a fourth. On this occasion, most violent pains in various parts of the body had preceded the hysteric convulsion; and when this last had continued for an hour an abundant sweat broke out over the entire surface of the body, and this in the parts of the body which had been the seat of the severe pains was coloured red in consequence of the presence of true red blood-corpuscles. As the sweat appeared, the convulsions and pains gradually subsided. The skin was entirely intact, and the sudoriferous glands must have been the source of the blood.—*Med. Times and Gaz.*, June 3, 1865.

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Vaccination.—The vaccination Committee of Lyons have just published their Annual Report. Every year, they tell us, adds something new to a subject which has been long ago thought exhausted. M. Palasciano of Naples had supplied matter from the cow, and with this some children and animals at Lyons had been vaccinated. In its use, it appears that certain precautions are requisite. Professor Chauveau states that the matter from the cow never fails when the rules laid down by M. Palasciano are duly attended to; and that it produces finer pustules than the ordinary ones, and is absolutely harmless. One of the most essential rules is, that the matter must be taken from a pustule which is not more than seven days old; and that it must be taken from the very bottom of the pustule. The liquid matter, which may be obtained in abundance from the surface of the pustule at the eighth or ninth day, appears to have only very feeble inoculating powers. Thus eleven inoculations, made with matter taken from the bottom of young pustules, all succeeded perfectly; whilst five inoculations, made with matter taken from the surface of the pustule on the eighth day, all gave negative results. M. Chauveau thinks that we should employ animal

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vaccination as a means of avoiding syphilitic contagion. But the head surgeon of l'Antiquaille—M. Gailleton—gives a much more moderate view of the question. In his opinion, vaccination from the cow is a method which can only be very rarely employed, and is not required as a preventive against syphilis, if only due precaution be taken by the vaccinator. M. Berne, also head surgeon of the Lyons La Charité, affirms that vaccine matter has in no way degenerated, and is still as effective a preventive against smallpox as ever it was. Altogether, it would appear that the experiments made at Lyons with vaccine matter taken from a cow do not correspond precisely with the account given by M. Palasciano at the Lyons Congress. The Lyons Hôtel-Dieu is, we are told, a permanent focus of variolous infection, both of patients, and of visitors; so that the vaccination of every patient on admission has been recommended.—*Brit. Med. Journ.*, April 22, 1865.

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Improvement of Wines.—It was long a well known fact that Bordeaux wine which had crossed the tropics acquired additional flavour (and the "Bordeaux retour de l'Inde" has always been in great repute amongst connoisseurs), when recently it was discovered that Burgundy could be equally improved under similar circumstances. In the memoir which was read at the Academy a fortnight ago, M. Vergnette de Lamothe, its author, relates that, his attention having been called to this subject, he had discovered that the true cause of this amelioration must be attributed to the heat of the climes through which the wine passes, and he had tried the effect of artificial heat with complete success. Submitted to a temperature of 40° (centigrade), the wine had become just as good as that which had returned from foreign climes. This conclusion M. Pasteur confirmed in the discussion which followed. He mentioned that all diseases of wine are owing to microscopical ferments; and that after having employed with invariable failure, all sorts of means to combat them, he had at last found that an elevated temperature, whilst destroying the noxious bodies, gave considerable relish to the wine.—*Lancet*, June 3, 1865.

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Liebig's Extractum Carnis.—This article consists of the soluble extract of meat, deprived of all fat, bone, and tendon; and it contains much phosphate of potash and creatine. One pound of this extract is stated to contain the soluble matter of thirty pounds of flesh; and this quantity, if boiled with a few slices of bread, potatoes, and a little salt, it is affirmed, is sufficient to make broth for 128 men, and of a strength which is not to be obtained in the best hotels. The extract is of a thinnish consistence, has the agreeable flavour of roasted meat, and is doubtless a highly nutritious and valuable article of diet, especially suited for invalids and persons of weak digestion. In consequence of the absence of fat, it will not become rancid by keeping; and owing to its freedom from gelatine, neither is it liable to become mouldy; so that if it be kept in a moderately dry place, air being excluded, it will preserve its soundness and sweetness for many years.—*Lancet*, April 29, 1865.

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Sewage Difficulties.—Dr. Clouston, Medical Superintendent of the County Lunatic Asylum, near Carlisle, has given to the Metropolitan Association of Medical Officers of Health the history of a series of cases of dysentery, typhoid fever, and diarrhœa, so clearly due to the irrigation of an adjoining field with the sewage of the institution, that all who are concerned in promoting schemes for a similar application of liquid sewage may well pause and ask whether it is so universally safe as is now commonly taken for granted. Thirty one cases of dysentery and twenty deaths occurring in little more than thirteen months amongst about 250 persons is certainly a startling fact. Nothing, too, can be more clear than every link in the chain of evidence brought together by Dr. Clouston. The chief victims were, of course, the old and crazy and paralytic; so that fifteen of the twenty deaths might be put down to the conjoint agency of old age and infirmity; but at least one young and robust man was cut off. But this history, while it shows that sewage irrigation may be a most formidable poison, also shows the reason why. Sewage, to be harmless, must be absorbed by the earth. It requires a deeply porous soil, like that mentioned by Mr. Rawlinson in Lombardy, where beds of sand and gravel alternate, so that the water when it has lost its manure elements may find its way steadily downwards. But the land at Carlisle was not porous; it did not absorb; the drains which had been

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laid down became blocked, and the water instead of passing deep through porous beds, stagnated in the hollows of a clay surface thinly overlaid with sand, and returned in pestiferous streams to the Asylum. We fully accept Dr. Clouston's *dictum*, that it is unsafe to apply sewage to land with a stiff clay subsoil within 300 yards of human habitations, without the most deep and thorough tillage, and every other precaution, both with the land and the sewage, to insure absorption by the soil, and uninterrupted drainage of superfluous moisture.

Now for a few words on sewage difficulties generally; because in this, as in many other cases, now that the genera principle is accepted, people think there is no need of further thought, as if the details, the means of doing a very ticklish thing in such a way that it shall not be a nuisance, would come of themselves. It is not a very delicate subject, though a necessary one, so we may as well hold our noses, and plunge *in medias res*.

Assuming that the *water*-closet is a necessary evil in towns—though for villages, and for all cases where there is not a perfect water-supply, the *earth*-closets of the Rev. Mr. Moule seem preferable—the first question is, what shall be the immediate destination of the sewage, a river or a tank? If a river, it is of the utmost consequence that the sewage arrive quickly and before decomposition. As Mr. Rawlinson and Mr. Chadwick have shown, at Salisbury and elsewhere, *putrid* sewage, which has been festering in cesspits, badly-constructed sewers, etc., kills fish and befouls rivers. Fresh sewage feeds fish; the trout haunt the outfall of the sewer and become—so we are credibly informed—so fat as to fry without butter.[1] Yet to send sewage into rivers is a nasty and wasteful process, and very unsafe if water be taken for drinking purposes. True, as Dr. Letheby and Mr. Rawlinson affirm, water in motion becomes purified, by the growth of animals and vegetables, the action of the air, and the absorption of the banks and bottoms of rivers; but the principle of turning even fresh sewage into rivers is bad, and that of foul sewage worse.

Leaving the rivers, then, how is sewage to be applied to land? and here we have to notice that distressing habit of jumping to conclusions, of dogmatizing on general principles, and ignoring details, that want of a practical way of dealing with subjects which makes sanitarians and abstract sanitary science, though founded on truth, so much the laughing-stock of men who have to put science into practice.

Now, we blush to say it, but some sanitarians really talk as if all that was required was to let the soil pipe of the house empty itself on the nearest lawn, or field, or garden. It is said, for instance, that during a sewage squabble at the watering place of Bournemouth, it was coolly proposed that the sewage of houses a very few yards distant should be emptied on a small field or pleasure-ground right in the middle of the town.

On this point we are glad to find that two of the ablest writers on the subject—Dr. Spencer T. Cobbold,[1] the well-known helminthologist; the other, not a philosopher, nor natural historian, but one who is actually in the habit of applying sewage—Mr. William Menzies, Deputy-Surveyor of Windsor Forest and Parks,[2] speak out and give us some wholesome truths.

It must be recollected that the *stercus humanum* is greedily explored by numbers of animals, pigs, ducks, *κυνέσσιν οἰωνοῖσί τε πᾶσι*. Dr. Cobbold shows with great force the dangers of a wide-spread invasion of disease due to parasites—from the old, familiar tapeworm, in its various forms to the new Bilhazia, which invades the kidneys, and which has been detected here in the bodies of men and monkeys by the acuteness of Dr. John Harley. And Mr. Menzies, like a practical man, shows the danger of putting on the surface of land any sewage containing solids capable of lodging, festering on the surface, instead of soaking into the earth.

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The Evils of England, Social and Economical.—It is with the greatest pleasure

[1] See Rawlinson's paper in the Social Science *Transactions* for 1864, p. 497.

[1] "A National Sanitary Question. New Epizotic Malady: On the Probable Introduction of this Formidable Disease, and the Increase of Parasitic Diseases in General as a Consequence of the Proposed Extensive Utilization of Sewage." By T. Spencer Cobbold, M. D., F. R. S., etc. etc. London: Groombridge. 1865. Price 6d.

[2] "A Treatise on the Sanitary Management and Utilization of Sewage: comprising Details of a System Applicable to Cottages, Dwelling-houses, Public Buildings, and Towns; Suggestions relating to the Arterial Drainage of the Country and the Water Supply of Rivers." By Wm. Menzies. Illustrated with numerous Drawings. London. Longmans. 1865. 4to. Pp. 84.

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that we call our readers' attention to the issue of a shilling edition of the little work which bears this title.[1] It lays bare the very secret root of one-half of the social evils of our time—viz., misplaced philanthropy; that system of patches which consists in palliating evils instead of preventing them; which prefers building hospitals for the sick to providing wholesome houses for the healthy; which allows every sort of evil from filth and idleness to flourish, and then provides "institutions" to remedy the mischief. The author's doctrine is this, that if a man will not work neither should he eat; that starvation is the natural penalty of idleness, and that they who step in and try to avert the penalty, without removing the crime, do but starve the honest labourer whilst trying to keep the idle one. Every penny given in idle charity, so miscalled, to the idle is so much robbed from the wages we might give to the honest worker. There are, however, hosts of people who fail in life, not through idleness or improvidence, but through *weakness*, bodily or mental—especially mental. Many of the small tradesmen in the metropolis end their days in the workhouse, neither through idleness nor dishonesty, but for want of enterprise and want of judgment or insight into probabilities. Their ordinary course of life is such that, what with rent, families, etc., they just pay their way and put by nothing. Many investments, also, are treacherous; they who venture nothing get nothing, and they who venture everything too often lose all. Hence public as well as private provision should be made for the cripples of our social system, but in such a way as to be no premium to the idle, nor yet to encourage jobs for officers and *employés*.

There are twenty subjects at the least—such as druggists' practice, quack medicines, waste of time, of manure, of life, of health—on which we should be glad to quote the author's opinions; we will only mention his dicta on Foundling Hospitals, because, spite of the repeated exposure of the folly and mischief and immorality of such institutions, there are sentimental philanthropists who from time to time revive the idea of setting them up in the vain hope of preventing infanticide: "The proportion of child murders is greatest in the cities cursed with these establishments." It is in vain to try and set aside the order of nature. Infants "ought to be lying upon mothers' laps; they ought to be pressed to mothers' breasts;" and there is absolutely no substitute. The Mendicity Society, the soup kitchens, poor laws, and all other means of doing away with the penalty of idleness, are discussed with inimitable causticity and acuteness.—*Med. Times and Gaz.*, June 3, 1865.

[1] "The Evils of England, Social and Economical: being a Series of Short Essays on Beggars and Thieves; Charities and their Abuses: Paupers and Poor Laws; the Waste of Resource in Men, Money, Time, and Material, but specially the Mean, Disloyal, and Pernicious Vice of Indiscriminate Almsgiving." By a London Physician. London: Renshaw. 1865.

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Paris Maternity Hospital.—Great alterations, worthy of note, have been lately made in the Paris Maternity Hospital. The lying-in wards have been so disposed as to be capable of being used alternately. Open fire-places have been adopted in place of former stoves. Each subdivision contains only six beds. When one division is in use, the adjoining one is left vacant and thoroughly ventilated. A circulation of air is also kept up between the beds. All the wards have been repainted in oil. The linen used is immediately removed from the neighbourhood of the wards. The water-closets are made after the English fashion. All direct communication between the infirmary and the lying-in wards is prevented. The physicians and students must visit these wards before those in the infirmary; and they cannot, after visiting the sick wards, again enter the lying-in wards until after some time has elapsed. Precautions as regards the making of autopsies have also been made.—*Brit. Med. Journ.*, May 6, 1865.

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Revaccination in the Prussian Army.—During 1864, there were vaccinated, or revaccinated, 69,560 soldiers in the Prussian army. Of these, 59,396 had distinct, and 7,265 indistinct marks, and 2,899 no mark at all, of previous vaccination. The results of the vaccination were, 43,596 regular, 10,505 irregular pustules, and in 15,459 no pustules at all. Of the latter kind, on revaccination, 4,897 succeeded, and 10,392 were followed with no results. From this it appears that, in 69,550 men, the vaccination produced regular pustules in 48,493 or in about 70 per cent.—*Brit. Med. Journ.*, May 6, 1865.

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A text-book well adapted to the student, and the information contained in it shows the author to be *au niveau* with the scientific medicine of the day.—*London Lancet*, Feb. 25, 1865.

We can conscientiously recommend it to the student; the style is clear and pleasant to read, the matter is good, and the descriptions of disease, with the modes of treatment recommended, are frequently illustrated with well-recorded cases.—*London Med. Times and Gazette*, April 1, 1865.

Dr. Hillier subsequently enters upon a detailed description of the various affections of the skin. Our space will not admit of our following him through this part of the book, but we can strongly recommend the entire work as constituting a very complete manual of skin diseases. The descriptions are sound and well written, the diagnostic rules are concise and clear, and the treatment is excellent. A collection of formulæ contained in the appendix adds still more to the completeness of the book.—*The Medical Mirror*, April, 1865.

Dr Hillier, as physician to the skin department of a large general hospital, has had the duty devolved on him of instructing others in the nature and treatment of cutaneous affections. For their guidance he has written this work, using in its production both his own experience and the information which he has derived from the study of leading works on dermatology. He has thus produced a very useful book, simple, practical, and well adapted, in our opinion, to give students and practitioners a good idea of the characters of skin diseases, and of the treatment which they require. —*British Medical Journal*, April, 1865.

It is a concise, plain, practical treatise on the various diseases of the skin; just such a work, indeed, as was much needed, both by medical students and practitioners.—*Chicago Med. Examiner*, May, 1865.

The author of this moderate-sized book has well performed the labor of furnishing to students and practitioners a trustworthy, practical, and compendious treatise, which comprises the greater part of what has been long known of cutaneous diseases, and what has been more recently brought to light by English, French, and German dermatologists.—*Chicago Medical Journal*, May, 1865.

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The art of Chromo-lithography has, in the present instance, achieved a very satisfactory result in the production of colored illustrations of cutaneous diseases. Great credit is due to Dr. Neligan in supplying to the student so useful a work. Some of the drawings are particularly close representations of nature. We would instance the first plate, giving the various forms of erythema, and an admirable one of erysipelas of the face; the forms of herpes (plate 4); of impetigo (plate 7), &c. Plate 13 gives a most artistic representation of purpura, which cannot fail to impress the student so that he would at once recognize the disease at the bedside. Nor are the illustrations of lupus and porrigo-favosa less characteristic. We need scarcely add that we recommend the work.—*British and For. Medico-Chir. Review*, Oct. 1855.

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CLINICS.

CLINICAL LECTURES.

Clinical Lecture on Addison's Disease. By E. HEADLAM GREENHOW, M. D., F. R. C. P., Assist. Physician to the Middlesex Hospital. (Continued from page 101.)

One of the points to which I have directed your attention in the history of this disease has been that the discoloration of skin often appears some time previous to the accession of any of the characteristic constitutional symptoms. On the other hand, as I have already stated, cases of the real disease sometimes occur and prove fatal in which no dislocation of skin has existed. Such cases are, indeed, rare, and appear only to be met with where life has terminated at a comparatively early stage of the local affection, either in consequence of complication with some other exhausting disease, or else possibly from the feeble constitution of the patient. I shall briefly quote, in illustration of this fact, a case to which I have already referred in a former part of my lecture.

A mechanic, aged thirty, was admitted into the hospital, under the care of Mr. Hulke, in September, 1862, for caries of the spine and psoas abscess, accompanied by a degree of feebleness quite out of proportion to the loss of flesh, and by great irritability of stomach and obstinate constipation. On rising from his bed on the morning of Nov. 6th to go to the neighbouring watercloset he became faint, grew weaker during the day, and expired at eight o'clock on the following morning. At the post-mortem examination an abscess was found in the course of the left psoas magnus muscle, containing nearly a pint and a half of pus. It was connected with caries of the bodies of the third and fourth lumbar vertebræ, and also with another abscess on the right side of the spine, which extended upwards from the third lumbar to he twelfth dorsal vertebra. The supra-renal capsules were enlarged,

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hard, and nodulated. On section they were found to be infiltrated with a nearly homogeneous translucent material, mottled with a few yellowish friable specks; but some traces of the normal structure were discovered on microscopical examination. The apices of the lungs contained a few scattered deposits of tubercle.

Here, therefore, is a case in which, although the constitutional symptoms in the main agreed with those of Addison's disease, there was no discoloration of skin, and in which also it seems certain that the local affection was at the time of death still in a comparatively early stage; for the material with which the supra renal capsules were infiltrated had not yet undergone degeneration into that yellow cheesy matter which was found in all the cases I have previously described. The patient, in fact, doubtless died much sooner from the complication of the supra-renal with the vertebral disease than he would have done from either of them separately.

If, in cases such as the one last mentioned Addison's disease is liable to be overlooked, on account of the absence of that discoloration of the skin which is its most obvious feature, on the other hand I should warn you against an opposite source of error in diagnosis—namely, that of mistaking other forms of discoloration of skin for the peculiar discoloration of Addison's disease. This is no unnecessary caution; for within the last year I have seen three cases of discoloration of skin which certainly bore a strong general resemblance to that of Addison's disease, and had consequently been mistaken for it; but on careful examination I found the discoloration in all three cases to be wanting in the true diagnostic signs. We had also in the hospital the year before last a very remarkable example of the same class, which might readily have been mistaken by any one personally unacquainted with the disease for a genuine case. As the power of distinguishing ailments of secondary importance from diseases of the gravest character is no less valuable in practice than the skill to diagnose these last when they are really present, I will read you the notes of this case in some little detail, and shall then direct your attention to the several points of resemblance, and also to the conclusive discrepancies between the constitutional symptoms and external signs presented by this spurious case, and those which exist in true cases of Addison's disease.

E. A——, aged sixty-five, was admitted under Dr. Stewart's care in June, 1862. She was very poor, ill-fed, and uncleanly, and had apparently been tramping about the country for months. Stated that she had always been delicate, and had been ailing for about eighteen months, but more especially since the beginning of the year. Her weakness had increased very much during the last eight weeks, and from having been stout she had become much emaciated. Was free from pain, but experienced a sense of sinking at the epigastrium and a disinclination for the slightest exertion. Her appetite had never been impaired, and she had suffered neither from nausea, vomiting, nor breathlessness on exertion. Was unable to say when her skin, which had formerly been soft and fair, began to change color. Her daughter, however, stated that she had observed her mother's face becoming tawny about two years before. About twelve months later the yellow tinge had appeared to deepen, and she subsequently observed a brown colour on the chest and back, which had continued to spread and increase up to the time of her admission. On admission her face was very yellow, and the conjunctivæ slightly so. The skin was deeply bronzed on the chest and back, more lightly on the thighs, scarcely at all on the legs and feet, which were considerably œdematous. Pulse 108, moderately full; heart-sounds healthy. Her chief complaints were of extreme sinking and prostration, and of craving appetite.

The patient was temporarily transferred to my care in the month of August, when the following notes of her case were taken:—

Aug. 24th.—Pulse 86, of fair volume, not particularly compressible. Face scarcely sallow, but a little dark under the eyes. Anterior surface of chest to umbilicus of a brownish-black hue, interspersed with numerous small well-defined spaces of normal coloured skin. Axillæ paler than chest, and a space of normal-coloured skin, the size of a hand, in the lower part of the left axillary region. Nipples and areolæ of normal colour. Discoloration on abdomen more uniform than that on chest; no increase of darkness round navel. Groins and pubes less bronzed than surrounding surfaces. Thighs paler than body, but

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presenting, especially on the insides, a number of small well-defined dark patches, some corresponding in hue with the bronzing on the body, and others having a reddish hue. On examination under a lens, some of these are rough, or covered with a small crust, as if they were the traces of former eruption. Discoloration on back paler than on chest, but of the same mottled character, the patches of which the discoloration is seen under a lens to consist, not being of uniform shade, but some much darker than others, and with abrupt margins, interspersed with small spaces of normal-coloured skin. The legs below the knees and the arms are almost entirely free from bronzing, but with numerous small, isolated, dark spots similar to those on thighs. Hands of normal colour; lips and buccal mucous membrane, red and normal. Conjunctivæ slightly yellow and muddy-looking. Discoloration appears to be superficial, and under a lens the darkened cuticle in some places looks raised, and in others a little rough.

A few days later, in order to determine the seat of the discoloration, the cuticle was raised in two small patches on the chest by the use of liquor vesicans, and for some weeks after the healing of the blistered surfaces, they remained pale, but gradually resumed the dark colour of the surrounding skin. Under tonic treatment, and with the use of alkaline warm baths, the discoloration very considerably diminished, while with good diet and management the woman's health greatly improved. She regained her flesh and strength, and left the hospital apparently in good health.

You will, no doubt, have perceived, while listening to this case, that there were several strong points of resemblance, especially in the early history, to what I have described as occurring in genuine cases of Addison's disease. Feelings of languor and debility, dating backwards at least as far as eighteen months, rapid increase of weakness during the last few weeks previous to her admission, epigastric discomfort, and disinclination for the slightest exertion, these were all constitutional symptoms known to be amongst those usually met with in that disease. Again, the appearance of the discoloration first on the face some two years before, and then gradually spreading over the general surface of the body, and deepening in colour until it assumed a brown, and in parts an almost black hue—these, I say, were external signs which undeniably at first sight bore a strong resemblance to the usual course of the discoloration in Addison's disease. But, on the other hand, all the most decisive constitutional symptoms—viz., feebleness of pulse and of heart's action, breathlessness and faintness on exertion, nausea, vomiting, and loss of appetite, were altogether absent; and what appeared to me even more conclusive was, that those symptoms which were present were all easily referable to an apparent and sufficient cause. In fact, the woman had never been strong, she had led a life of hardship and over-exertion, and as she grew old was sinking from want of proper food and rest. Again the course in which the discoloration made its appearance was, as I have said, very similar to that usually observed in Addison's disease; but the discoloration itself, when closely examined, was in all respects, both as regards its nature and location, totally uncharacteristic. First, as regards its nature, I have already explained that, in cases of the true bronzed skin of Addison's disease there is rarely or never any definite line of demarcation between the darker and lighter parts; but that the former fade insensibly into the latter, and these into the normal-coloured skin, as was well seen in our last case, that of E. W——. In this woman's case, on the contrary, the whole discoloration was formed of dark patches with abrupt margins, everywhere interspersed with small, well-defined spaces of normal-coloured skin. In the true discoloration, small dark spots like moles, are frequently found, but always, I believe, on the already discoloured parts; whereas in this woman the small, isolated, dark spots were all on the paler or uncoloured skin. In Addison's disease, also, the discoloured skin remains soft and smooth; whereas in this case, the darkened cuticle was in some places raised, and in others rough. Secondly, as regards its location, we have seen that the true discoloration is usually darker on the face, neck, and hands, in the axillæ and groins, and on the cicatrices of superficial injuries, than it is on the neighbouring surfaces; whereas the spurious discoloration, in this case, was absolutely palest on all these parts. In all the genuine cases of bronzed skin which I have seen, the nipples and areolæ were deeply discoloured;

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whereas, in this woman, they were of the natural colour, contrasting strongly with the brown hue of the surrounding integument. Lastly, there were no signs whatever of the stains on the lips, gums, and buccal mucous membrane, which, when present, are amongst the strongest characteristic features of the discoloration in Addison's disease. Moreover, as a post-mortem examination affords the only indisputable evidence regarding the existence or non-existence of this disease, I may mention that I have lately read a case recorded by a French physician (Dr. Vernois), which was almost precisely similar to the above, but in which the woman died instead of recovering, and the supra renal capsules were found to be healthy.

I have dwelt at considerable length upon the last two cases, because I am convinced that the incredulity which still lingers in the minds of some members of our profession as to the reality of Addison's discovery, has been mainly due to the misunderstanding of cases observed by themselves or reported by others, and which have in many instances been either cases of true disease overlooked during life on account of the absence of discoloration, or, on the other hand, cases of spurious discoloration, in which, of course, the true disease was not found after death. I have never met with any professional man who had had the opportunity of watching the course of a genuine, well-marked case, and who still disbelieved in the existence of the disease.

And now what is the true nature of Addison's disease? and what relation does the change in the supra-renal capsules bear to the constitutional symptoms and external signs which, as we have seen, are associated with it? Neither of these questions can be satisfactorily answered at present, but it will be well at least to understand the exact state of our knowledge on both subjects. The deposit in the supra-renal capsules, in cases of Addison's disease, has been frequently called tubercular, and I have, with the reservation already explained, retained the term, on account of the difficulty of finding any other which would more accurately express its true character. The term tubercular, indeed, implies a morbid change of a rather lower type than the material of which the deposit consists in its earliest stage, yet the use of the term fibroid or fibro-cellular would, on the contrary, imply a structure of higher type than is really found in the diseased capsules. I am aware that very accomplished microscopists—and amongst others my friend and colleague, Dr. Burdon Sanderson, who has carefully examined for me one of the capsules taken from the body of E. W. —state that the deposit contains no structure resembling tubercle; yet I am still of opinion that, without being identical with tubercle, it is more closely allied to it than to fibro-cellular tissue, to which, in its earlier stages, its microscopical characters no doubt bear a stronger analogy. It is probable, indeed, considering the number of cases in which caries of the vertebræ and lumbar or pelvic abscess have been found in association with this disease, or in which deep-seated lumbar pain has been recorded amongst its symptoms that the change in the supra-renal capsules may at least sometimes originate in inflammation, and that in such cases the deposit is an inflammatory exudation, which at first takes the form of low-organized fibro-cellular tissue, and, having little stability, tends rapidly towards degeneration. But, even in this view of the case, the similarity of the deposit to tubercle in its proneness to degeneration, and also in the degenerative processes which it undergoes, and the frequency with which, as I have said, we find it occurring in strumous subjects, both appear to me to place it, clinically at least, in the group of tubercular affections.

The exact relation between the change in the supra-renal capsules, and the constitutional symptoms and external signs of Addison's disease it is impossible at present to determine, as we really know nothing respecting the functions of those organs; but that there is an intimate relation between them appears to me unquestionable. It is perhaps possible that there may be a common cause in the form of some constitutional disorder inducing both the local affection and the outward manifestations; but the fact that in a considerable number of cases, in which the symptoms have been too strongly marked during life, no trace whatever of disease has been found after death, except the change in the supra-renal capsules, appears to me to afford very convincing evidence that the local affection and the external symptoms stand to one another in the relation of cause and effect. This opinion derives additional confirmation from

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the circumstance that, although in several recorded cases the supra-renal disease has been apparently preceded and set up by neighbouring irritation arising from lumbar abscess or caries of the spine, yet in no case have the symptoms of Addison's disease appeared in conjunction with these other complaints, unless the change in the supra-renal capsules had also taken place. As to the manner in which the supra-renal change operates as a cause in producing these symptoms, it may be, as has been supposed, that the symptoms are due to irritation of the nerves connected with the solar plexus and semilunar ganglia; but at present the supposition rests mainly on conjecture, being unsupported by any adequate proofs, and being, it seems to me, in some degree discountenanced by the circumstance that the irritation of the nerves, which must also be consequent on the destruction of the supra-renal capsules by cancer, appears to have no effect in producing the symptoms of Addison's disease. It may be supposed, on the other hand, that these symptoms depend upon perversion or destruction of the functions of the capsules themselves; but there are difficulties also in the way of either of these hypotheses. If the symptoms were due to destruction of function, we should expect them equally to follow the destruction consequent on cancer, which we have seen not to be the case; and their being due to perversion is difficult to reconcile with the fact that the change in the supra-renal capsules must, in many instances, have taken place some time before the accession of any of the constitutional symptoms. In truth, this portion of the pathology of Addison's disease remains as little explained or understood as it was at the time of the publication of Addison's discovery.

Lastly, on the subject of treatment, I can offer unfortunately but few observations. Only two cases have come under my care for more than that short period immediately before death when the state of the patient is as hopeless as that of a person sinking in the last stage of phthisis; and of those two, one died prematurely, as I believe, from the effects of over-exertion. Treatment directed towards quieting the gastric irritation, and improving the patient's powers of taking and digesting food, together with care in securing the avoidance of over-exertion, and of all causes of depression, may, and I believe will, in many cases, if employed early enough, tend to prolong life, and to ward off the fatal asthenia, even after the organic disease is confirmed. In Mrs. W——'s case I found that compound mixture of iron and cod-liver oil had for some time an apparently beneficial effect; and in another case, nitro-muriatic acid in combination with a vegetable bitter, alternated occasionally with citrate of iron, in an effervescent form, no doubt succeeded for a while, in relieving the more urgent symptoms. In our last case, that of E. W——, the temporary rallying seemed due to the use of effervescing medicine with chloric ether, and to the administration of liberal support in the form of egg and brandy, beef-tea and milk. But with regard to this disease, it is at present the study of its diagnosis and pathology, even more than of its treatment, which is important, for hitherto every well-authenticated genuine case has sooner or later proved fatal; and this, I fear, must continue to be the case until further researches may enable us to diagnose it in those earlier stages in which it may be possible to arrest its progress, or to avert for an indefinite time the fatal termination.—*Lancet*, April 22, 1865.

HOSPITAL NOTES AND GLEANINGS.

Anæsthesia and Analgesia of the Left Half of the Body, from Head to Foot, the Effects of Lead-poisoning.—The following most interesting case is at the present time under treatment; but we make early use of the notes, as kindly furnished by Dr. Victor Bazire, the medical registrar. From some clinical remarks by Dr. Fincham we gather that it is not a case of anæsthesia muscularis, nor of locomotor ataxy; but is probably the result of impaired nutrition (an effect of lead) of those central portions of the right hemisphere which take cognizance of tactile sensory impressions. It is a case of sensory paralysis, existing apart from deficiency or want of co-ordination or motor power, to a degree but rarely seen.

The man was treated, before admission for the lead-poisoning, probably with iodide of potassium. Afterwards he took cod-liver oil, with the effect of fattening him, but without benefit to the special symptoms. Since his admission he has taken iodide of potassium for a short time; the hypophosphite of soda, and electricity have been em-

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ployed. The result is that the improvement has been steady, so that at present both the analgesia and anæsthesia are greatly diminished; he can walk without constant watchfulness as before, and can direct his finger to any point of the head or face with his eyes shut.

W. P——, aged forty-three, married, a plumber and gas-fitter, was admitted into Westminster Hospital under Dr. Fincham, on April 25th, 1865, suffering from anæsthesia of the left half of the body from head to foot. He is tall, fairly nourished, with a sallow complexion and a slight blue line at the edge of his gums. He has no gout, no rheumatic fever, no syphilis; but a year ago he had an attack of lead colic, and his left wrist dropped for a few days.

Present state.—There is complete *analgesia* of the whole left half of the body, exactly limited to the median line—namely, of the left half of the head, face, tongue, palate, neck, trunk, and penis, and the left arm and leg. Pricking and pinching, except in the spots presently to be mentioned, are obscurely felt as a mere contact, and many seconds after the impression is made. The left eyeball is so insensible to pain that the patient rubs it with impunity. The left half of the tongue gives a sensation of heat and dryness, and cannot distinguish sapid substances. Instead of analgesia, however, there is tenderness on pressure in front of the left elbow-joint, and again near the lower edge of the deltoid. The patient complains also of "pins and needles" in the left half of the tongue and lips. Cold and heat are more easily recognized by the affected than by the healthy side. There is nearly complete *anæsthesia* as well as analgesia. When any point is touched on the left half of the body, the patient becomes conscious of it after an interval of many seconds, and erroneously localizes the impression. He states that he feels as if through a thick layer of flannel or wool. He does not know the position of his left arm or leg if he does not see it. If when his eyes are shut he be asked to touch the tip of his nose with his left hand, he visibly makes considerable efforts; but when his hand has been with great difficulty and slowness raised to a certain height, he says he can do no more, and does not know where his hand is. Sometimes, however, the movement is continued, still with considerable slowness and uncertainty, but the hand always goes to one side of the head, never succeeding in touching the nose. The movement is slow, and marked by hesitation, but it is not sudden or jerked. When he walks, the patient keeps his eyes fixed on the ground immediately before him—not on his legs. His gait is somewhat uncertain and unsteady, but not markedly so. He cannot walk with his eyes closed; he cannot stand, even with his eyes open, when his feet are closely approximated together. When his feet are far apart, and he shuts his eyes, he oscillates from before backwards, and threatens to fall down. He says that when his eyes are closed, he feels as if he had only one leg. There is no real *diminution of motor power*, at present at least, beyond a slight deviation of the right angle of the mouth, which is pulled upwards and outwards, and a scarcely perceptible inclination of the apex of the tongue to the left. There is no trace of paralysis anywhere else. The partial and combined movements of the left arm and leg are not wanting in force and precision *when the patient can guide them by sight*; for when his eyes are shut, as already mentioned, voluntary movements become nearly impossible in the case of the arm, and completely so in the case of the leg. There is not the slightest difference in size between the muscles of the right and left limbs; their electro-muscular contractility is perfect. None of the senses are affected, except taste in the left half of the tongue. Vision is good; the left pupil, however, is appreciably smaller than the right. Hearing is perfect on both sides. The intellect was never affected; the patient seems to be a very intelligent man, and gives an excellent account of himself. Memory very good. There has never been any headache, but more or less giddiness throughout. Articulation thick and embarrassed, through the insensibility probably of the left half of the tongue; the faculty of language is unimpaired. Appetite is good; digestion easy; bowels are at present regular, but were formerly very costive; the bladder was never affected.

Mode of attack.—The patient's illness dates from the beginning of September, 1864. It set in suddenly, without any premonitory symptoms, about seven A. M. one morning, with a sense of chilliness and numbness all down the left half of the body. He was not, however, prevented from attend-

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ing to his usual occupation until three weeks afterwards, when insensibility of the left side became complete. At the beginning there was also some motor paralysis, as it appears from his statement; for he affirms that there was real and considerable weakness of his left arm and leg, that his left cheek was pendulous, and that the right angle of his mouth was markedly pulled upwards and outwards.—*Lancet*, June 3, 1865.

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Callous Ulcer of the Leg—Amputation—Recovery—with Clinical Remarks. By J. PAGET, Esq.

A. B., a laundress, 32 years old, was received into St. Bartholomew's Hospital, under the care of Mr. Paget, on May 16, for the treatment of a chronic ulcer of the leg, depending on varicose veins. This had first formed five years ago, and had never healed, although she had been under hospital treatment on several occasions. She had always been able to do her work, but had constantly suffered very severe pain in the limb. It was on account of this pain, and the discomfort she felt from having so large a wound always discharging, that she applied for admission. The ulcer occupied the lower part of the leg, and extended about eight inches in the long axis of the limb, and six inches transversely; the whole of the lower half of the leg was much enlarged from infiltration and brawny thickening of the soft parts, which had become firmly matted together. The floor of the ulcer was formed by the exposed muscles, whose outlines, with the depressed cellular spaces between them, gave it an undulating uneven surface; the edges were thickened and indurated. As it was hopeless to expect to restore the limb to a useful condition, and as the patient pressed for relief, Mr. Paget performed amputation through the upper third of the leg. The wound healed rapidly, and she is now about to leave the Hospital.

In a clinical notice of this case, Mr. Paget remarked that these ulcers have their seat of election in the lower third of the leg. Their bases are level and flat, or marked with elevations and depressions corresponding to the outline of the muscles whose surface they expose; their edges are round and thickened; their margins, as it is very important to observe, are callous (hence the ulcers are termed "callous ulcers")—that is, hard, dense, brawny, firm, and not sliding, but fixed to the parts beneath. This callous condition is not limited to the immediate margin of the ulcer, but extends for some distance into the surrounding parts. It is produced by the partial organization of lymph which is effused during the repeated congestion and inflammation which take place.

After reminding the class that the healing of an ulcer is normally the work of two processes—viz., contraction, the surrounding integuments being gradually drawn in towards the centre; and the formation of new skin or cicatrization—Mr. Paget pointed out that in the case of a bad callous ulcer little or no contraction can take place; so that healing must be carried on almost entirely by the formation of new skin. Hence either the ulcer cannot be closed at all, or if it be the scar does not remain sound, as the new skin is not enduring enough to bear the active use of the limb. Individual cases must receive a separate consideration; but as a general rule amputation, if involving only the average risk of life is justifiable for these callous ulcers of the leg in the following cases:—

1. Where a poor person who has no way of living except by active work, is wholly disabled so that his means of gaining a livelihood are lost.

2. When his life is made so miserable and burdensome that he would rather encounter the risk of amputation than remain subject to the disease.

This is a question almost entirely for the poor; for, as these ulcers involve no risk to life, amputation need not be proposed when the patient is able to have such treatment, and so to manage himself, that he can secure a fair amount of comfort in spite of the disease. The condition of the ulcer itself justifies amputation in the working classes, and after long duration notwithstanding treatment.

1. When it is so large as to extend over the third of the surface of the leg.

2. When it broadly surrounds the whole circumference of the limb, so as to encircle it in a complete broad collar or belt.

3. When its base is fixed to the muscles, and exposes their interspaces. Here, as the subcutaneous tissue is destroyed, no contraction can take place, and sound healing cannot be secured.

It should be remembered that ulcers are very difficult to heal.

1. When they are placed over the tendo-

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Achillis; even if such can be healed for a time the action of the tendon is very likely to lead to their recurrence.

2. When they have extended down to the bone, so that their base is formed by a growth of new bone, covered by granulations, as is not unfrequently the case with ulcers situated over the tibia. Either of these conditions adds to the reasons for amputation.

In concluding, Mr. Paget suggested that it might be an interesting inquiry to ascertain, in the various kinds of ulcers, how much of the healing is due to contraction, and how much to cicatrization. This is a point, which has not at present been much investigated.—*Med. T. and Gaz.*, July 1, 1865.

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Thrombosis of Cerebral Sinuses, with Apoplexy of Optic Thalami consequent on Anæmia.—This case is very interesting, as showing effusion of blood in nervous tissue from an unusual cause—viz., venous obstruction. Apoplexy of the optic thalamus is rare in patients twenty years of age, and apoplexy of both thalami rarer still. As regards treatment, of course, the general condition of the patient was most important. She was liable to thrombosis almost anywhere, and its occurrence in the cerebral sinuses, if not a matter of accident, is one which it would be difficult to explain. The case is an interesting clinical record, as showing one of the dangers of anæmia.

Eliza S., aged 20, admitted into St. Bartholomew's Hospital, under Dr. Jeaffreson, March 29, 1865. She had enjoyed good health up to twelve months before her death, when, without any apparent cause, the catamenia suddenly ceased, and she began to suffer from anæmia. On admission, she was very feeble and anæmic; ankles œdematous; pain in left side; anæmic murmurs in neck, etc. She complained of slight headache, at first frontal, which gradually became more intense, so that on the night of April 3d it kept her awake. On April 4th she vomited several times; was delirious during the night, and on the 5th became gradually insensible and comatose, the pulse varying from 90 to 120, and being slightly irregular. She died at 10 30 A. M. on the 6th.

Autopsy, twenty-six hours after death.—(By Dr. Andrews, to whom we are indebted for this report.) Brain: Convolutions somewhat flattened, particularly on the right side, and marked by impress of fibres of dura mater. In the white matter of the posterior part of each hemisphere, about half an inch from the upper surface, is a dark clot the size of a pea. Both lateral ventricles contain a considerable quantity of blood-stained fluid; in the right one is a long, thin, dark clot lying upon the surface of the corpus striatum and optic thalamus. The septum lucidum is entire, but soft. The optic thalami are unusually prominent; on section, œdematous, and filled with numerous firm, dark clots, by which their tissue, greatly softened, is broken down. These characters are more marked in the right than in the left; but the left corpus striatum presents numerous dark red points, apparently small clots. The veins of the choroid plexus and velum interpositum, together with the venæ Galeni are distended by firm, partly yellow and fibrinous clots. These extend continuously along the straight sinus, and for about one inch into the commencement of the lateral sinuses, a little further down the right than down the left; but in the lateral sinuses they do not entirely fill the vessels, whilst the straight sinus and the smaller veins are greatly distended by them. The oldest portion of the clot appears to be at the junction of the straight with the lateral sinuses. It is here of a dull pinkish tint, and somewhat soft. The blood in the other sinuses was almost entirely fluid; no disease of any of the cerebral arteries was detected. The substance of the brain was throughout a little soft and watery. No tubercle was detected in any organ. Several of the branches of the pulmonary artery in each lung were obstructed by old clots, some of which were breaking down in their centres. There were numerous large ecchymoses immediately beneath the endocardium of the left ventricle, which was very firmly contracted, and in the jejunum there were three recent intussusceptions.—*Med. Times and Gaz.*, May 13, 1865.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

American Medical Association.—Proceedings of the Sections.

1. *Section on Medical Jurisprudence and Hygiene.*—The section was organized by

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calling Dr. G. F. Hibberd, of Indiana, to the chair, and appointing Dr. R. Burns, of Penn., Secretary.

The "Report of the Committee on the Value and Necessity of Vaccination and Revaccination for the Eradication of Smallpox" was considered, and after slight amendment was indorsed for publication.

The paper of Dr. Nebinger on the Treatment of Smallpox was read and discussed, and indorsed for publication, after revision by the author.

The paper of Dr. Toner on Compulsory Vaccination was considered and discussed, and indorsed for publication, after revision by the author.

The "Report of the Committee on the Introduction of Disease by Commerce and the Means for its Prevention," was considered, and indorsed for publication.

The following questions were proposed by the Committee for consideration at the next annual meeting, and were referred to the gentlemen named below to report upon:—

Comparative Value of Life in City and Country.—Edward Jarvis, Massachusetts; J. H. Griscom, New York; E. M. Snow, Rhode Island.

Drainage and Sewerage of Cities in their Influence on Health.—Wilson Jewell, Pennsylvania; Cyrus Ramsey, New York; Josiah Curtis, Massachusetts.

What Effect has Civilization on the Duration of Human Life?—A. A. Gould, Massachusetts; W. F. Peck, Iowa; Z. Pitcher, Michigan.

On Disinfectants.—E. M. Hunt, New Jersey; A. N. Bell, New York; J. C. Smith, New York.

Central Committee on Vaccination, continued.—A. A. Bell, New York; J. P. Loines, New York; H. D. Bulkley, New York; A. Nebinger, Pennsylvania; J. F. Hibberd, Indiana.

2. *Section on Practical Medicine and Obstetrics.*—In the Section "on Practical Medicine and Obstetrics," Dr. Zina Pitcher, of Michigan, was elected Chairman, and Dr. Ellsworth Elliot, of New York, Secretary.

The report of Dr. A. Fisher, of Illinois, "On the Sulphites of Lime and Soda in the Treatment of Hospital Gangrene, Phlebitis, Erysipelas and other Zymotic Diseases," presented last year, was referred for publication.

Dr. H. R. Storer, of Massachusetts, read a paper on Insanity, omitting some portions thereof. A motion was made to refer it to the Committee on Publication. Dr. Hooker, of Connecticut, moved that the Committee omit all matter of a personal character. Remarks were made by Dr. Jarvis, giving statistics tending to show that the positions taken by Dr. Storer were open to question. In reply, Dr. Storer read the statistical portion of his paper, and disclaimed the remotest intention of personality. The amendment of Dr. Hooker was lost, and the motion to refer carried.

The Secretary read a portion of a paper "on the Relation which Electricity sustains to the Causes of Disease," by S. Littell, of Wills Ophthalmic Hospital, which was referred to a committee appointed under the following resolution, offered by Dr. Loomis, of Washington, D. C.:—

Resolved, That a committee of three be appointed, to report on the "Relation which the Doctrine of the Correlation and Conservation of Forces bears to the Physiological and Pathological Conditions of the Human System."

The following persons were appointed the Committee: Dr. Loomis, of Washington; Dr. Jacobi, of New York; and Dr. Littell, of Pennsylvania.

Dr. H. R. Storer requested that Dr. Elsberg, of New York, be permitted to exhibit a case of laryngeal disease. Dr. Elsberg's paper was referred to the Committee on Publication.

The Secretary presented the following resolution:—

Resolved, That the Secretary recommend to the Association the following resolution for adoption: That the Committee on Publication be requested to adopt such appropriate measures as will insure a speedy and general circulation of the Prize Essay on Abortion, provided this can be done without expense to the Association.

This was adopted.

It was also resolved, that the Chairman should appoint a committee to report, at the next annual meeting, on the progress of medical science during the ensuing year. The following gentlemen were appointed:—J. C. Smith, New York; J. P. Ordway, Massachusetts; E. M. Hunt, New Jersey.

Dr. Holton, of Vermont, offered a resolution, that a committee be appointed by the Chairman to report on Diphtheria as it has prevailed in the United States. The

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motion was carried, and the following Committee was appointed: Dr. H. D. Holton, Vermont; Dr. O. D. Norton, Ohio; Dr. M. Ryerson, New Jersey; Dr. J. S. B. Alleyne, Missouri.

Adjourned.

3. *Section on Surgery.*—The Section was organized by the choice of Dr. H. J. Bigelow, Massachusetts, as Chairman, and Dr. A. B. Hall, Massachusetts, as Secretary.

Dr. J. Mason Warren, of Massachusetts, read an elaborate paper on Staphyloraphy. After considerable discussion, in which several gentlemen participated, the paper was referred to the Committee of Publication.

Dr. L. A. Sayre, of New York, read a paper "on the Mechanical Treatment of Chronic Inflammation of the Joints of the Lower Extremities, with a description of some new apparatus for producing extension at the knee and ankle-joints." The paper, after some remarks from various gentlemen, was referred to the Committee on Publication.—Dr. Sayre also read the history of a "Case of Exsection of the Wrist joint," by Dr. Tewksbury, of Portland, Me. As this paper was considered as an Appendix to the Report of the Chairman of the Committee on Conservative Surgery, it was referred to the same Committee.

Dr. H. D Holton, of Putney, Vt., read a short paper on Dislocation of the Sternal End of the Clavicle, exhibiting a "new apparatus for maintaining the reduction." This paper was referred to the Committee on Publication.

A paper was presented from Dr. Lawrence Turnbull, of Philadelphia, "on Foreign Bodies in the Ear, with a condensed statement of the present condition of Aural Surgery, with a bibliography." As the author was not present, the paper was referred to the Committee on Publication, with discretionary power.

On Wednesday, the Section met at the Medical College to listen to a paper from the Chairman, with demonstrations, on fracture of the neck of the femur and impaction of the head of the bone, and dislocation of the same.

Subsequently, Dr. Sayre offered the following resolution:—

Resolved, That the thanks of this Association are due to Dr. H. J. Bigelow for his scientific demonstration of the anatomy of the hip-joint and the injuries connected therewith, and their proper treatment, and that they request Dr. Bigelow to furnish the same for publication.

The following subjects were selected to be reported upon at the next annual meeting: On Strangulated Hernia, by Dr. Peck, Iowa. On the cause and Pathology of Pyæmia, by Dr. T. Woodward, U. S. A. On the Use of Plaster of Paris in Surgery, by Dr. James L. Little, of New York.

Adjourned.

Bost. Med. and Surg. J., June 15, 1865.

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Jefferson Medical College.—Dr. John B. Biddle has been elected Professor of Materia Medica and General Therapeutics in this school.

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Long Island College Hospital Medical School.—At the annual commencement held in Brooklyn on the 29th of June, the degree of M. D. was conferred on 52 candidates.

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Hospital Department of the Philadelphia Almshouse (Blockley).—It is stated in the report for 1864 of Dr. R. M. Girvin, that during the year there were treated in this hospital 5815 cases; 3455 of which were cured and 532 died, and 555 remained in the wards. A large number of patients have also been prescribed for in the outwards. 528 cases were treated in the female venereal ward.

"The clinics," Dr. G. states, "have never been so well attended. Though the new clinic room is one of the largest in the city, yet it has been insufficient to accommodate the large number of students in attendance. The great variety of disease presented; and the able manner in which the clinics are conducted, offer opportunities to the student not equalled in Philadelphia, if anywhere in the United States."

—

Obituary Record.—It is with deep regret that we record the death of Joseph Hopkinson, M. D., Surgeon U. S. Vols., which sad event occurred on the 11th inst. after a short illness, at the Mower U. S. A. General Hospital.

Dr. H., in early life, was a surgeon in the navy, but resigned his commission after his marriage. On the breaking out of the rebellion he volunteered his services in the army, and was ordered to organize a hospital at South and 24th Streets. In the accomplishment of this duty he displayed such remarkable administrative ability that

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he was selected by the then Surgeon-General Hammond, to superintend the erection and organization of the Mower U. S. A. General Hospital, at Chestnut Hill, one of the most extensive of our military hospitals. From the inception of this hospital until the period of his death, Dr. H. had its charge, and through his close attention, ingenious contrivances, and administrative ability, he made it the model military hospital of the country.

MOWER UNITED STATES ARMY GENERAL HOSPITAL,
CHESTNUT HILL, PHILADELPHIA,
July 12, 1865.

At a meeting of the medical officers of the Mower United States Army General Hospital, held July 12, 1865, to express their sorrow at the death of their commanding officer, Surgeon J. Hopkinson, United States Army Volunteers, the following resolutions were unanimously adopted.

Resolved, That in the death of Surgeon Joseph Hopkinson, United States Volunteers, the country has lost a valuable servant, society a distinguished member, and those associated with him a true and valued friend.

Resolved, That in the management of the Mower United States Army General Hospital, which he has commanded since its opening, he has shown talents of the highest order as an administrative officer, and won a reputation which will ever associate his name with the history of the war.

Resolved, That we tender to the family of the deceased our warmest sympathies for the bereavement they have suffered, and assure them that we sincerely mourn with them in their great affliction.

Resolved, That the members of the Staff wear the usual badge of mourning for thirty days, and that they attend the funeral in a body; also that all who have been members of the Staff be invited to join with them.

Resolved, That a copy of these resolutions be forwarded to the family of the deceased, and that they be published in the daily papers.

C. WAGNER, Ass't Surgeon, U. S. A. Com.
Mower U. S. A. Gen. Hospital,
President.

Q. M. M'GRATH, Act. Ass't Surgeon
U. S. A., Executive Officer,
Secretary.

A. L. GIBBS, A. A. Surgeon U. S. A.
N. SCOTT HENDRIE, A. A. Surg. U. S. A.
GEO. W. FOGGS, A. A. Surgeon U. S. A.
Committee on Resolutions.

—— At Louisville Kentucky, July 4th, in the 52d year of his age, Benjamin Rush Palmer, M. D., Professor of Surgery in the Medical Department of the University of Louisville.

FOREIGN INTELLIGENCE.

Epidemic Cerebro-Spinal Meningitis in Northern Germany.—The official report of Dr. J. B. SANDERSON, who was sent by the medical officer of the Privy Council to Dantzic to investigate the nature, &c., of this epidemic, has been published.

According to this report, the epidemic was, for the most part, confined to the country comprised within the department of Dantzic, which lies between longitude 18° and 19° 35′, the chief hygienic peculiarity of which consists in the presence of conditions favourable to the production of malaria. Prof. Hirsh, however (an abstract of whose report we have received), states that the epidemic has raged in other parts of Germany besides Dantzic, and particularly in Pomerania and Silesia. It has also broken out in Bavaria, Hessia, Hanover, Brunswick, and, indeed, it may be said to have overrun all Germany.

The disease first appeared in February, 1864, in Bromberg, a town of 30,000 inhabitants, distant 100 miles from Dantzic. It prevailed as an epidemic until the middle of June, when it entirely disappeared. During this period 140 persons, chiefly children, were attacked, and about 50 died. At the end of 1864, or beginning of 1865, it reappeared in the department of Dantzic, and between the 2d of January and 21st of March, 1865, it proved fatal to nearly 900 persons, most of whom were children under fourteen years of age.

Dr. Sanderson's description of the disease is drawn from the notes of 56 cases which came under his observation. The disease commences suddenly with rigors, profuse vomiting, intolerable headache, and giddiness. After these symptoms have continued for several hours, the patient's thoughts become confused. The headache continues, while other pains fix themselves in the muscles of the nape of the neck, of the small of the back, or of the abdominal wall. After a few hours the patient becomes violently delirious, while at the same time the head is thrown back, and the

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thighs are drawn up by muscular contractions. When the delirium has lasted for a few days, the patient, in the worst cases, lapses into profound insensibility, which continues until death. In a few rare instances he regains complete consciousness as the delirium ceases, and enters on convalescence. Much more frequently he is left on the third or fourth day of the disease, if he survives its first onset, in a state of extreme nervous depression, which is usually of long duration, and which is characterized by impairment of consciousness, perversion of both common and special sensibility, marasmus, and excessive muscular weakness. During this stage he frequently utters piteous cries of pain, and at night he usually sleeps little, and wanders quietly, and he is liable to a recurrence of the initial symptoms. As consciousness returns, the patient often finds that he has become paralyzed, or that his sight or hearing is destroyed; or, on the other hand, he may be so exquisitely sensitive, that light and sound are intolerable, and all other external impressions painful.

Contraction of the muscles of the back of the neck is the symptom which has been regarded as the most distinctive characteristic of the disease, no less by scientific writers than by the vulgar. On this head Dr. Sanderson makes the following important observations:—

"This symptom did not present itself in its acute stage, in any of the cases, in the excessive form in which it has been described by some physicians. *No case came under my observation in which the contractions of the back of the neck were of such a character as to be correctly called tetanic.* It was almost always observed that the head was thrown backwards, and that the patient complained of agonizing pain in the nape and occiput; but on placing the hand on the trapezius it was generally found that, although any effort to straighten the neck was strongly resisted, and aggravated the sufferings of the patients, no tightness could be felt so long as the head was allowed to retain its retracted position. It was not till I attempted to straighten the neck that the muscles became hard, and even then *the hardness was not for a moment comparable with that which is felt in tetanus.* It is of the utmost importance to notice that there were some instances of patients whom I saw early in the first stage of the disease (the day following the delirium), in whom I could not detect a trace of retraction of the head, stiffness in the muscles, or anything else remarkable."

Dr. Sanderson, however, thinks it not improbable that in these cases the symptom was developed at a later stage.

No mention of the presence of cutaneous eruptions is made in the report; but, from the cases given in the appendix, an eruption of herpes on the face appears to have been not uncommon; and in one of the nine cases "petechial spots, not raised above the surface, each about an eighth of an inch in diameter, were seen in considerable number on the trunk, particularly on the belly." Professor Hirsch, on the other hand, never met with well-developed petechiæ; but, in addition to herpes on the face, he witnessed, in a few cases, "some other eruptions in the shape of measles, or scarlatina, or roseola."

Dr. Sanderson had an opportunity of investigating the post-mortem results of cerebro-spinal meningitis in four cases, and Professor Hirsch in a like number. In seven of the eight cases the pia mater of the brain and spinal cord was infiltrated with gelatinous or puriform exudation. It is a remarkable circumstance that the exudation covered the posterior surface of the cord, while the anterior surface was almost entirely free from it. It is also to be noted that the exudation was beneath the arachnoid, and not in its cavity; in this respect the lesion differed from what Dr. Kremiansky reports that he has found in the typhus fever of St. Petersburg. In one of Hirsch's cases there was no trace of exudation on the surface of the brain or cord, although the disease had lasted thirty-six hours with the usual characteristic symptoms. Hirsch also mentions, on the authority of a trustworthy physician, another case in which no exudation was found, but he does not state the duration of the disease. The other morbid appearances were chiefly a dark fluid condition of the blood, hypostatic congestion of the lungs, and enlargement with softening of the spleen. In one of Dr. Sanderson's cases the spleen weighed no less than 1 lb. 7 oz., and was soft and hyperæmic. Enlargement with softening of the spleen, however, is not a constant phenomenon, and, according to the observations of Dr. Klebs, of Berlin,

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is chiefly found in cases of short duration. At the same time it has been met with in so many cases that it is surprising how Dr. Niemeyer,[1] of Tubingen, can found a distinction between cerebro-spinal meningitis and such infectious diseases as typhus fever on the absence of any splenic lesion in the former malady.

Dr. Sanderson's experience has led him to the decided opinion that the Dantzic epidemic is not communicable by personal intercourse, and for the following reasons. 1. No instance had been related to him where the disease has spread from the family first infected in any district. 2. The disease appeared simultaneously in the two districts of the department of Dantzic, which were eventually most severely visited, although they were distant thirty miles from each other. 3. In the populous *town* of Dantzic the total number of cases was inconsiderable; in no case were two persons attacked in one house, and there was no transmission of the disease from one patient to another in the hospitals. 4. Where more than two persons were attacked in one family, the intervals between the attacks were so short that it could scarcely be supposed that there had been communication from one to another.

This opinion is shared by most of the medical men in Dantzic and its neighbourhood. Dr. Marcuse, of Carthaus, however, is "strongly disposed to attribute the spread of the disease to contagion;" and Professor Hirsch, writing of its communicability, says: "I do not venture to give a decided answer, though I must confess that I cannot deny it wholly."

The only local condition of importance which Dr. Sanderson could assign as the cause of the epidemic was malaria. He could not discover any relation between its prevalence and overcrowding with deficient ventilation or want of house drainage. On this head, Professor Hirsch writes: "Overcrowding, with bad ventilation, seems to me to be, although not the essential cause of the disease, a very powerful promoting cause of the epidemic."

As to treatment, the plan most commonly followed by the German physicians was the local abstraction of blood from the head, the application of cold, and the administration of calomel. After the initial symptoms had passed off, opium appeared to be of great use in allaying pain and inducing sleep.—*Lancet*, July 1, 1865.

[1] Die Epidemische Cerebro-Spinal Meningitis nach Beobachtungen im Grossherzogthum Baden, von Dr. F. Niemeyer. Berlin, 1865.

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Compressive Suture in Wounds of Venous Trunks.—A murderous assault was made last spring on an attaché to the Russian Embassy at Paris. M. Maisonneuve, who attended the victim, has laid before the Academy of Sciences a medical note of this affair, which presents considerable interest. Its principal object is to make known a case which perhaps stands alone in science—namely, the cure of a wound inflicted on the venous brachio-cephalic trunk, and to establish the advantages of a mode of compressive suture already made use of, but not in application to the wounds of the great venous trunks. When M. Maisonneuve arrived, the Count de B—— (the wounded gentleman) had fainted away, and was literally bathed in blood. Amongst other wounds, there existed one immediately above the upper extremity of the sternum, one centimetre and a half in length, extending deeply, and which gave issue to a considerable quantity of blood. In order to stop the hemorrhage, and avoid the terrible accident of penetration of air into the heart, the skilful surgeon at once determined to close the wound, and employed the twist-suture, taking up a good deal of tissue in order to effect, as it were, tension and compression over the vein. The hemorrhage stopped at once, and no accident, either immediate or consecutive, occurred. On the fourth day the needles were removed; and on the 12th of May (the assault had been committed on the 24th of April) the patient was completely cured. —*Lancet*, June 17, 1865.

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Raw Meat and Alcohol in the Treatment of Phthisis.—Mr. Fuster introduced these remedies in the treatment of phthisis into his clinical ward at Montpellier only in April last, and he reports already its success in order to induce others to give it a trial—not so much, indeed, as a cure of phthisis, as a means of restoring the strength in exhausting diseases, such as phthisis, purulent infection, and the like. The treatment consists in the employment of raw meat in conjunction with small doses of very diluted alcohol. Raw mutton or beef reduced to a pulp in a mortar and

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separated from the tendinous portions by means of a sieve, is given in boluses rolled in sugar, or in a state of sugared pulp by teaspoonfuls at a time; so that from 25 to 75 drachms are taken daily. A drink is made by diluting a portion in cold sweetened water for allaying the thirst. The alcoholic potion is composed of 25 drachms of alcohol at 20° Baumé diluted in 75 drachms of sweetened vehicle, and given in tablespoonful doses every hour. The proportion of alcohol and the intervals at which it is given must, however, vary with the susceptibility of the individual. The combination of the two agents is, in M. Fuster's opinion, indispensable for the production of a beneficial effect, "the one seeming to exercise a reconstituent action, and the other a more direct action on the organs of hæmatosis." He declares that, under the influence of such combination, several patients suffering from advanced phthisis and purulent infection have become completely cured—though, seeing the short time that has elapsed, temporarily alleviated would be probably the more correct expression.—*Med. T. and Gaz.*, July 1, 1865.

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Reproduction of Articular Head of Humerus.—M. VELPEAU, in the name of M. OLLIER, has presented to the Academy of Sciences, a portion of a humerus twelve *centimètres* long, and comprising the superior articular head of the bone. This piece of bone had been taken from the arm of a young girl whose shoulder had been the seat of suppuration for several years. The periosteum was preserved, and the bone had been reproduced. M. Velpeau showed photographs which proved that the arm could be moved in all directions; that there was no deformity; and that, therefore, the articular head of the bone had been restored. This fact, said M. Velpeau, proves the possibility of the reproduction of the bony epiphyses by the periosteum, and the error of those who maintain that such reproduction can only occur in cases of necrosis.—*Brit. Med. Journ.*, May 13, 1865.

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Spontaneous Return of Hybrid Plants to their Parental Forms.—NAUDIN maintains that hybrid plants, however constant at first, tend in subsequent generations to a separation of the two specific elements, which are, as he expresses it, rather intermixed than truly combined, so that they would at length resolve themselves into the two parental types, or by failure on one side return to the one or the other. In the *Flore des Serres* for July, 1864, he gives the results of his experiments upon our common sorts of thorn-apple, datura stramonium and D. tatulæ. These have more commonly been taken for varieties of one species; but their specific distinction has been maintained, especially of late, by various arguments. According to Naudin they are truly distinct species which do not sensibly vary. One always exhibits green stems and pure white flowers; the other dark purple stems and violet tinged flowers. These two thorn-apples Mr. Naudin crossed in 1855, and obtained one hundred or more hybrids, both tatula-stramonium and stramonio-tatula, both just alike and exactly intermediate between the two species in the coloration of the stem and flowers. They had, however, the peculiarity of a gigantic size, attaining at least twice the size of their parents, and a tendency to sterility, which was manifested in the failure of all the flower-buds which were produced at the first forking of the stems. The later flower buds opened, however, and were perfectly fertile, the pods being as large and as full of good seeds as those of either parent. In 1861 the seeds of stramonio-tatula were sown, and produced a second generation like the first. Seeds of this crop were sown in 1862, and twenty-two seedlings were preserved for experiment. Nine individuals returned as completely to D. tatula and five did to D. stramonium. Two others seemed to be D. tatula, and were equally reduced in and fertile from the first forks, but they still showed in their paler colouring a trace of the other ancestor. The remaining six of the twenty-two showed somewhat more of it, both in colour and in the tallness and lateness of fructification. "Here, then," says Naudin, "is a hybrid completely intermediate between the two parent species when left to itself, fecundated by its own proper pollen, is spontaneously dissevered at the second generation, dividing its offspring between the two species."—*The Medical Press*, May 31, 1865.

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British Museum.—The annual accounts of the British Museum have been issued. The expenditure for the last year has been £97,533, and the estimate for the current year is £100,164. Year by year additions

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are made in all the departments, and 1864 has been no exception from the rule. An extensive collection was obtained of the remains of human industry of a very early period, discovered in a cave on the banks of the Aveyron, in France. The Bishop of Newfoundland has presented to the zoological department a mummy specimen of the great auk, which was found in a deposit of frozen guano in Newfoundland, pressed flat, with the flesh converted into adipocire. With the exception of the extremities of the toes this example is perfect in every respect, even to the pen feathers on the wing; the back is as perfect as on the day when the bird died. It is especially of interest on account of the belief that the bird has lately become extinct. Professor Owen has to acknowledge nearly 13,000 additions to the department of natural history. The Rev. H. B. Tristram has presented a large number of specimens of animals collected in Syria and Judæa, among which may be identified the "hare," the "coney," the "chamois," and other animals of Scripture. Among the additions to the department of geology, the most interesting, in relation to questions as to the antiquity of man and the cranial and dental characters of primitive races, are the partly petrified remains of the men who inhabited the limestone caverns of the South of France at the period when chamois, boquetin, wild horse, reindeer, the great extinct ox, etc., existed, and especially the reindeer, abounded in that part of Europe, and when, the use of metals being unknown, the primitive implements were chipped flints, by means of which divers weapons and instruments, including needles, were manufactured from the bones and antlers of the beasts captured and killed for food. On some of those bone instruments the reindeer and horse had been delineated in outline with much truth and spirit, and these are probably among the earliest examples of the graphic art. While these evidences expand our knowledge of the relations of the human species with quadrupeds locally or absolutely extinct, others have been received indicative of the continuance of species now extinct to a more recent period than we had previously evidence of. Among such specimens are the valuable donations by the Hon. W. O. Stanley. The jaws and teeth of the northern elephant (*elephas primigenius*) were discovered with remains of red deer, stumps of large trees, hazelnuts, and alderberries, in a bed of compact peat, about three feet thick, covered by a deposit of blue clay of varying thickness, overlaid by a sandy deposit with shells of existing and neighbouring marine species, all cut through in excavating the harbour at Holyhead. But, among the evidences of a past animal existence, perhaps the oldest, geologically, are of highest interest. The Museum has been enriched, by a donation from the directors of the Geological Survey of Canada, with fossils of crustaceous and testaceous rank from the Cambrian or Lower Silurian shales, and more especially with a beautifully etched section of the Still Lower Laurentian marble, exhibiting evidences of the protozoal foraminiferous organism called "Eozoon Canadense, which, at the present phase of geological science, is the most ancient fossil organism known. These are, indeed, valuable donations; but the one great gift for which Professor Owen cries out is the gift of space for the proper exhibition of the treasures that are thus accumulating in Bloomsbury. At present all that can be done with valuable acquisitions that flow in is to stow them where they may be safely kept, in hope of a time when they may be exhibited under proper conditions of light and access, or else to displace other articles to make room for the new arrivals to be seen.—*Med. Times and Gaz.*, May 20, 1865.

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Obituary Record.—Died, in Edinburgh, June 6, 1865, aged 81 years, David Maclagan, Surgeon in ordinary to the Queen in Scotland, and Physician to the forces.

In London, June 13, 1865, aged 82, Henry Herbert Southey, M. D., F. R. S., Gresham Professor of Medicine, and formerly Physician to George IV.

At Grasmere, Westmoreland, aged 78, Sir John Richardson. F. R. S., late Inspector General Naval Hospitals He accompanied Sir John Franklin's Arctic expeditions as surgeon and naturalist, and was the author of many scientific papers.

At Leeds, June 4, 1865, aged 73, Joseph Prince Garlick, a much respected and useful physician of that town, and long associated with some of the principal institutions of the district.

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This popular work on Diseases of the Eye is a standard authority both in England and America. It ably discusses the subject of Ophthalmic Pathology and Therapeutics, is cheaper than the larger works upon these topics, and we commend it to our readers as a most valuable guide in the successful management of this troublesome class of diseases.—*Nashville Journal of Medicine.*

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CLINICS.

CLINICAL LECTURES.

Lecture on Operations and Practical Surgery. By WILLIAM FERGUSSON, F. R. C. S., F. R. S., Prof. Surg. in Royal Coll. Surg. Delivered at the Royal College of Surgeons of England.

MR. PRESIDENT AND GENTLEMEN:—Throughout the history of our profession, from the earliest date to the present time, distinctions have been drawn between Surgery strictly and Physic. The wisdom or necessity of drawing such distinctions is very questionable, particularly since the passing away of the dark days of surgery, when an inferior class acted under the orders of those who themselves could know but little of the art. As our profession gets older, the custom becomes less apparent, although in large towns and populous districts there will always be those who devote themselves specially and respectively to these departments. This, in my opinion, depends upon, and is determined by, natural habits and tastes rather than upon any actual necessity that the two should be disjoined, or that a union of skill in both is incompatible with man's mental and physical powers. I cannot myself see why there may not, should not, could not, be such a combination. Most of our legislative enactments on education seem to infer that our degrees and diplomas of the best stamp can be secured by those only who have acquired, and can display, a competent knowledge of each; and the impression seems to get stronger, that whilst a physician must be all the better for a good knowledge—aye, even power—in surgery, the surgeon will be a poor practitioner who has not a thorough knowledge of physic. One of our greatest lights in surgery, Sir Benjamin Brodie, who has but recently passed from amongst us, was as much distinguished in this respect as for his power in surgery properly so called, and the professional reputation of Abernethy was as much based

Published monthly by LEA & BLANCHARD, Philad'a, for One Dollar a year; also, furnished GRATUITOUSLY *to all subscribers of the "American Journal of the Medical Sciences," who remit the Annual Subscription, Five Dollars, in advance, in which case both periodicals are sent by mail free of postage.*

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on blue pill and black draught as upon tying great arteries, opening abscesses, or any other surgical proceedings with which his name was associated. In fact, the term "pure surgery" should, in my opinion, be banished from our vocabulary. The term is one of sheer affectation. One hears of a "pure surgeon" every now and then, but I declare I have never known such an animal in my life! If any one endeavoured to realize in his own person the man of surgery, as one working with his hands alone, he would be left high and dry in his "purism;" a stranded wreck, of little use either to himself or his fellow-creatures. In these days of rail and electricity, the strictly "pure surgery" required in Great Britain might be done by a dozen men, who, like the herniotomists and lithotomists of old, should travel from place to place, as their services might be required. But fortunately surgery in the present day stands on a more extended base, and we are delighted to call into use all the appliances to our art which raise it to a science. Without attempting to draw a line of distinction between the physician and the surgeon, as has often fruitlessly been done, I shall prefer to state that, in my opinion, so long as our profession exists there will doubtless be distinctions; and so, in the character of a "Simon Pure," I must limit my observations to matters "purely" surgical.

Now, with all the affectation referred to, it is a curious fact and feature in our department, that so long as a young man who has the diploma of a surgeon does not attempt operations on the living body, he may pass as a clever fellow, possibly a clever surgeon. If he tries his hand and fails, he must be content in future to work chiefly with the pen. If he succeeds and acquires reputation, he is, for a time, well-nigh worse off than the bungler. Enemies and friends say, "Ah, yes! he is very good with his hands, but he knows nothing else. He knows not when an operation should be done, nor can he treat a case properly, either before or after." Yet throughout all my experience the best operators have generally been the best pathologists, and as competent in practice otherwise—aye, even more so, than those who have been unable to cope with them in handicraft. The judgment in all pertaining to good surgery has been evinced as much (or more by one as by the other, and the operator has had the superiority of both judging and acting. To deride a young surgeon because he displays great powers with his hands is as unreasonable as to abuse an artist for superior skill with pencil and brush. Happily for the artist who excels, he gets credit for having a head to guide his hand, but the rising surgeon who shows skill in operations has to plod his way through obloquy until at last he fairly wrings out the admission that he is good in other respects also.

Whatever opinion may be held on these matters, one thing is certain—that surgery and operations cannot be separated. Our skill has not yet enabled us invariably to treat disease and accident so as to cure without operation. Nature, despite man's efforts, will still hold on in diseased action; and accidents involving serious injuries and necessitating surgical operations must happen to the end of time.

It may be called a great surgical crisis when the question of an operation arises; equal, if not greater, perhaps, to the important time when the operation itself is to be performed. Supposing that the decision is for an operation, and that the time for action has come, I think that I may fairly appropriate part of this lecture to a subject which my experience leads me to believe is often much neglected.

Occasionally an operation remarkable for its bungling succeeds; again, one which might be done in a couple of minutes may extend its tardy course over a hundred, and yet do well; but because such instances succeed they ought not to be the rule for the future. They ought rather to serve as landmarks or beacons, to point a better way. There is a carelessness and awkwardness evinced by many in the performance of surgical operations, hazardous to the patient and derogatory to the character of surgery. In every art perfection or improvement is aimed at, but I regret to have to make a partial exception as regards our own. Happily the examples are most numerous wherein men really have such objects in view; but some in high places have been careless—aye, incompetent in such matters. Yet what can be better for suffering and for surgery than that, when an operation is needful, it should be done with all that prearrangement, forethought, judgment, coolness, and decision which constitute perfection.

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I have repeatedly seen surgeons proceed to operations with preparations signally deficient. No sponge, no lint, no strapping, no bandage, no dressing. I have seen a flap in amputation of the leg made before it was discovered that there was not a saw in the apartment. I have seen lithotomy performed with a common catheter for a guide; and the same operation has been resorted to with a common hair-curling iron, instead of forceps, to extract the stone!

It is in dealing with hemorrhage that the greatest defects are observable. The absence of good clean sponges in sufficient number is enough to mar the appearance of an operation even in the best of hands I have heard a surgeon about to engage in such work say to the landlady or maid, "Have you such a thing as a sponge in the house?" I need not here dilate on the elegance of a domestic article of the kind; suffice it to say that I have looked with disgust at its application to a wound. Sponges are as essential to the satisfactory performance of an operation as plenty of water. The case cited by Sir Astley Cooper of a surgeon throwing down his knife and decamping in the middle of an operation is fortunately a solitary one; yet great embarrassments frequently arise, and chiefly among those who make little or no preliminary arrangements. He who has not calculated on what vessels may possibly be cut, will be the least prepared to meet emergencies; and I have generally observed that those with forethought have had least trouble on such occasions.

When blood flows, and that freely, I consider it characteristic of a good surgeon that, besides dealing with it promptly and decidedly, he should manage to conceal all traces of it as much as possible. There are some who seem to delight in the show of blood: thus, besides letting more flow than need be, they seem to take a pride in displaying it in all directions. They seem to calculate the brilliancy and magnitude of the operation by indications of blood being everywhere about. If the body-clothes and bed-coverings of the patient can be spotted all over or saturated, it is good; but better if, in addition, the blood finds its way through a mattress or two, and drips on the floor! A spirt here and there on the walls will be impressive; and if the operator and assistants be spattered from head to foot, so much the better! The man who glories in such sights, or takes no heed to prevent them, is likely to be pleased with a large display of white about the patient's dress, coverings, bed, or couch; and I have heard of such a one, not content with using towels for his hands, actually seizing the white bed-curtains and wiping his bloody paws! It seems a glorious thing in the estimation of such an operator that servants should carry away basins or pails full of water tinged, at least, with blood. Clots of course have an additional effect; and I have known many a simple operation, involving the loss of but little blood in reality, estimated on a very large scale from the circumstance that the tinged fluid has all been taken for blood. Hence it is no uncommon thing to hear from friends of a patient having lost quarts—even gallons—of blood when Mr. So and-so performed the wonderful operation! Now all these things I hold to be contrary to the best characteristics of good surgery. My impression is that all the horrors of our art should be concealed from common observation as much as possible. Happily, in most of the important operations this can be perfectly done, in as far as the patient is concerned, under the benign influence of anæsthesia; but, whether as regards patients, friends, or onlookers, I consider it of importance to the character of surgery that such matters should be attended to. I remember when venesection was practised more than in the present time, that the operator was considered a bungler if he let a drop of blood be seen after the basin was taken away; and I have often thought that it would be well if such an idea could be impressed on those alluded to, who seem as it were to gloat on the sight of blood. He may consider himself a happy man who can boast of clean hands in this world of turmoil. One would think that a surgeon, in this part of his duties, might at all events set to work with a clear conscience in this respect. Yet I have seen a man of fame proceed from one operation to another with his hands covered with the first patient's blood.

Demeanour in an operation I hold to be of great consequence as characterizing good surgery on such occasions. I remember being early impressed on this subject. Of two surgeons of great reputation as operators, one could not proceed a step without speaking to or consulting some one near. Even a pupil was appealed to, if no one of

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higher rank was by. The other would begin and finish without reference or a word to any one. On witnessing such scenes more than once, an impression arose that the one had no confidence in himself, but that the other was eminently endowed in this respect. There was in reality no lack of courage, knowledge, or skill with the one, but his demeanour was bad; and I need scarcely tell you that the other became the general favourite. No doubt even the greatest surgeons must every now and then deem it requisite to consult or to meditate during an operation; but the less the better for the character of surgery and the surgeon. A consultation during an operation detracts sadly from both. Yet a moment's hesitation will sometimes display the great master under emergencies! On such a pause I have seen the whole course of an operation altered, and, where for an instant all seemed chaos, a brilliant result effected. There has been no consultation, only a self-communing. The knowledge acquired in years has flashed through the mind, and the pause has been the crisis of a well-deserved success.

No operation can be perfectly done without efficient and well-trained assistants. The surgeon's style may often be judged by that of his assistants. I am far from holding myself as a perfect model regarding all these features that I have been referring to; yet I hope for pardon when I state that I considered it one of the highest compli ments ever indirectly paid to me when a practitioner, who had been present at a somewhat lengthy operation, asked privately if there had been any quarrel with myself and assistants. When desired to give a reason for such a strange question, he stated that he had remarked during the operation that scarcely a word was exchanged amongst us! That was just what had been prearranged; and I have a recollection to this day that the operation was well performed by all of us.

The very attitude of a surgeon during an operation will often indicate his superiority, or the reverse; but this, I think, will be best illustrated by a reference to hospital practice. The most extraordinary differences will often be seen in the operating theatre. The style here must needs be peculiar; for not only has the operator to seek the best light for his patient's sake and his own, but he has to make the best display he can for the sake of pupils and onlookers. His own front, his face and hands, must almost invariably be towards the benches; and my own impression is that it almost amounts to a separate study to do that in the operating theatre, to the satisfaction of a large number of onlookers, which might be admirably done in private before half a dozen assistants and witnesses. The non-professional public cannot be expected to understand the phases between good bad, and indifferent teaching; and I doubt if it is thoroughly appreciated even in professional ranks. No corporation should be more thoroughly interested in such matters than this College; indeed, some legislation has been made recently on the subject of operative surgery, giving it more importance than heretofore in professional education; and I hope that I may not be going beyond my province as Professor of Surgery here when I call attention to the manner in which operations should or might be done in public.

Whilst all the points I have already referred to merit as much attention in public as in private, there is a necessity for display, if I may so call it, in the operating theatre, which is not required in a private house. The display is, in other words, a demonstration of the operation, and he who shows this to the greatest perfection is most likely to get the reputation of being the best operator—the best practical teacher.

A bad operator, who thinks little of what he is doing, often stands in his own light as regards the sun, but he just as frequently commits as great an error in standing between the patient and pupils. Lithotomy is amongst the few operations in which this position is sanctioned; but here I have often thought that pupils might see and learn as much by looking in the surgeon's face as at the breach of the patient.

Supposing I had to perform an operation and stood between you and the patient thus, with my back to the audience, and assistants around so disposed as to cover the part from view, you would naturally be annoyed, as your chief object in sitting there would be to see the proceeding.

Again, as a teacher, it would, in my opinion, be my duty, supposing the operation to be an amputation, to show the part just removed, to sketch the history of the case, to point out the incurable disease or damage, or the uselessness of the member, had it in reality been preserved; to speak

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of the kind of operation performed, of the place of selection, and of the probable condition and usefulness of the limb or body afterwards. All these, and many other things, might be brought attractively and usefully, under the notice of pupils—for it must ever be borne in mind that they are intended wholly for pupils. In contrast to this, I shall tell how I have seen an hospital surgeon conduct himself. He has entered the theatre, addressed himself to his work, got it over to the best of his power—that is, as best he could—washed his hands (perhaps not), regaled himself with a snuff, nodded, winked here and there, and shaken hands with an acquaintance or two; then gone on with another case in a similar manner, and finally left the theatre without any indication of consciousness that pupils have been present!

Some may deem all these things unworthy of special notice. My own impression is that they are of considerable importance. To be a teacher is one of the attributes of a modern hospital surgeon. His general usefulness in the hospital will depend greatly on his powers of giving good instruction to pupils; and of this I am certain, that much of his own success in life will depend upon the manner in which he acquits himself at his public post.

Simplicity in regard to the performance of operations is important. All ostentation excepting the demonstrations to pupils, should be avoided. It is ridiculous to see an old hospital surgeon hold a stone above his head, still clutched in the forceps as he has just taken it from the bladder. It looks as if in his estimation such a thing had never been done before, or as if he had never done the like, and gives the impression, too, that he considers the extraction of the stone as the grandest thing in all his management of the case. Now, whilst I consider lithotomy, when well performed, as one of the finest of the surgeon's opportunities for displaying operative skill, I look upon the mere extraction of the stone as only one step—a great one certainly—in the treatment of the case; but it is unworthy the character of a first-class surgeon to show special exultation at this particular crisis. Better that the stone should be quietly laid aside until the patient is taken to bed, and that the operator should address himself to the wound, instead of flaunting his trophy over his head, with his back still to the onlookers. Part of *Hamlet's* advice to the players might, with some slight modification, be appropriately given to such surgeons:—

> "Suit the word to the action,
> The action to the word,
> Nor saw the air with your hand."

Next to good demeanour on the surgeon's part, I place that of his assistants. The best of operators may make but indifferent work if he is ill supported by those near him; but the manner of the assistant is, in truth, a tolerable criterion of the skill of the principal. He cannot always have the same, and he will generally be aided in accordance with the instructions which he lays down beforehand. Assistants, like principals, vary much in quality. Whatever responsibility may be put upon them, I always consider that the surgeon has the chief. When errors or failures happen, they depend almost invariably upon the surgeon himself; and I have never felt much sympathy with any one who has attempted to lay blame on those near him to excuse some bungling or blunder of his own. For my part I have had much reason to be satisfied with the efficiency of my assistants; and if I had fault to find, it has been with some outsiders, who have stood in need of the Harrow School custom of having their trousers-pockets sewed up, in order to let their hands be loose, and ready for the work before them.

Simplicity of instruments I take to be a good indication of an operator's skill. Even in the most complicated proceedings few comparatively are required; and the best operators I have seen have invariably trusted more to head and hands, than to a great number and variety of articles from a surgical *armamentarium*. Surgeons will always hold varieties of opinion as to number, shape, size, and other features regarding the instruments they like to use. But in an indifferent hand the best instruments will fail; and the trite and homely saying, that a bad reaper never has a good sickle, is, with due modification, equally applicable to the surgeon who has not the proper use of his hands. In these observations it may be noticed that almost everything I have said has reference to forethought and pre-arrangement with regard to surgical operations. It is often a test of a surgeon's worth when he is called upon to give an opinion on a case just as it is first brought

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before him. To form his opinion, give it, and act upon it, comprise the principles and practice of surgery as regards that case. At a glance, it seems as if there were nothing preliminary in all this; but, in reality, the man's whole knowledge and experience have in a manner constituted the prearrangements for the application of his skill under the circumstances. It is seldom indeed that a surgeon is called upon to operate at a moment's notice. Generally he has hours, days, or months to think upon what may be required. Now it seems to me unpardonable that there should be serious neglect when there is full time to prepare. I have heard of a surgeon being called to the country to perform lithotomy who, when about to see his patient, asked the village practitioner "if he happened to have any lithotomy instruments by him," having neglected to bring his own! It is not difficult to understand how a gentleman of this stamp has, with even large opportunities, made but an indifferent figure in the surgical world.

There is scarcely a thing done in our social relations in which forethought and prearrangement are not absolutely requisite. Much of our comfort in life, our meals, our meetings, our business transactions, are all so regulated. What spectacle, from "Punch" to a grand review, does not depend upon these? What great battle has been fought on chance? A great surgeon has been not inaptly compared with a great general: both have to do largely with human life. A battle, if one there must be, is a grand crisis with the soldier. An operation, if one cannot be avoided, is a grand crisis with the surgeon. What would we think of a general who went into battle without prearrangement, and what should we think of a surgeon who neglectfully stumbles unprepared upon his crisis? These observations are not made without reasonable grounds. There are some men who think so little or so erroneously, that I have seen the body amputated from the leg—fortunately, however, on the dead subject; but I have seen a similar process begun on the living by an hospital surgeon when happily his hand was arrested in time!

It is worse than affectation, it is ignorance of the true duties of the surgeon, a want of appreciation of the grand characteristics of surgery, that leads to such culpable trifling with our noble occupation; and I hope that I may not be considered in error by raising my humble voice as I have now done against such dealing with a critical part of an essential of true surgery.

After all I have said, I feel that I cannot go wrong in referring to the management of cases before and after the grand crisis of an operation; for here I shall tread on ground which, as already stated, some consider of higher quality. I shall leave the simply mechanical or art-work of our profession (dare I call it artistic?), and take to the so-called higher department.

I hold it impossible to separate the diagnostic part of our occupation from the treatment; for in reality there can be no sound method of practice which is not founded on correct diagnosis. This, in fact, gives us our exemption from empiricism. In general we profess to see the nature of a case, and to act accordingly. Yet what enormous variety there is in this action, and how seldom half a dozen men will think and act in all respects alike in any imaginable case! To keep to those requiring operations, much has been said regarding what has been called the preparatory and after treatment. There are operations in which no time is permitted for preparation; herniotomy, tracheotomy, and immediate amputations are of that kind. Even in these, some periods are, perhaps, more favourable than others. In many instances I may say that possibly the earlier the better; yet a judicious surgeon might wish to watch, particularly in the case of shock after accident. But it is chiefly to the instances where there is time for preparation that I wish to refer at present. Supposing a tumour, a chronic disease of joint, of bone, or of the urinary organs, incurable otherwise, of what does this treatment consist? If the tumour is not malignant, in all probability the patient is in rude, or the best health that can be expected for his age. The custom of bringing the strength, or constitution, as the term goes, in such a case down somewhat below par by purging and bloodletting seems to have been abandoned, and very properly so in my opinion. In other instances suffering will already have effected such a change, and it may often be the object of the surgeon to improve the shattered health before submitting the constitution to a trying ordeal. There are cases where we may feel convinced that

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time, a judicious course of medicine, wholesome food, and good air may effect some restoration. There may be a lingering hope that the disease may pass away, or get well under such treatment; but in the majority of instances, if an operation seems inevitable, I believe that the shorter the preparation the better. The patient is thus relieved at an early date from that which would continue to harass him mentally as well as bodily, and the prolonged strain of the disease is avoided. But it is affectation to talk of superior skill on these points—particularly if it is to be displayed by way of a course of medicine. I generally suspect a man's qualities who shows much faith in preliminaries in these instances; and even should the end be a cure without an operation, I should question his knowledge all the more, if he seemed to think that he was doing that which Nature was in reality effecting—possibly despite his physic. For my own part, I confess to a great desire to see what nature will do, for I fancy that operations and mutilations may thus occasionally be avoided; but when once hope is lost, then direct surgical interference will generally be found the most effective step. Nature has then a chance—the best chance—to show her resiliency; and where her powers are as yet but little sapped—where the organism is still perfect—she rarely fails to answer pleasingly to judicious surgical interference.

You may thus perceive that I place but little confidence in so-called preparatory treatment. A moderate share of common sense, and a simple dose or two, will go further than the most elaborate course of physic. Even greater importance, naturally enough, has been put on after-treatment than on that before an operation. Here, too, there is a strong call upon common sense—that being best dictated by the mind most highly imbued with the characteristics of good surgery. To wait quietly on Nature under such circumstances, and to aid her gently and judiciously, are the best merits of the surgeon. I confess to having much more reliance in surgical management at this stage; but even here good sense must be a predominating quality. We may set aside bloodletting and purging here also as being out of the question, except in rare and peculiar cases. Sir Astley Cooper has related how a patient with a compound fracture got a purgative in overdose, and was so disturbed that evil came upon the wound, and he died. This may be taken as an example of injudicious interference. Constipation is an evil of less moment than disturbing or irritating Nature in her local work; and purging and bloodletting amount to abstractions from her powers at a time when to give strength is the true philosophy. I am disposed to put it as an axiom that, up to a late period of life, Nature is more prone to repair than to destroy. We see this strongly marked in both vegetable and animal life. The younger the life the more strongly is this convinced; and in other instances she must be allowed time and favourable circumstances for the perfection of her work. If a limb is lopped off a tree of moderate age she will cover the wound with a cicatrix of bark just as certainly as seasons come round. It may be one season or it may be half a dozen or more, in accordance with the size of the wound or open surface. Just as certainly will she close a wound in the animal frame; but, in addition, she does it more rapidly.

It would be going from my true path were I to discuss such subjects at length—I should be going *ultra crepidam;* but the analogy is worth bearing in mind, and I refer to it at present chiefly with the view of drawing attention to this fact, which the attendant on vegetable life knows so well—that a certain time is absolutely necessary for Nature to do her work; that he can no more hurry her on than can the farmer get his harvest months before the allotted time. It is not to be wondered at that patients should fancy that the surgeon has the power of thus working, but it is to me amazing that he should affect that power. Of course it is his duty to place parts so that Nature may have a fair chance of doing what is wanted; but even with the nicest approximation of surfaces Nature will not always effect immediate union. All the medicines in the world, all local balsams that can be imagined, will have no influence in some instances. As well might we affect to arrest or stay the hand of earthly fate. Yet, with all these views, I am a great believer in after treatment, and fancy that a surgeon's skill may be justly gauged in many respects by his conduct on such occasions.

I have already alluded to this subject in a previous lecture, and need say little more

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upon it. Quietude is all important. If you wish parts to unite, you must resort to mechanical means to keep them in apposition; if you want them kept asunder, you must be equally on the alert. But whilst all seem tolerably agreed as to local treatment, there is great variety of opinion as to constitutional. It is here, perhaps, that the little weaknesses of our intellect are displayed chiefly in the fact that we deceive ourselves with the impression that we are doing that which Nature is bringing about in her own way. Some fancy that the perfection of treatment is to keep a patient low; others that rather a stimulating course should be followed, particularly if the patient's condition is not satisfactory. For my own part, I strongly advocate giving Nature much of her own way here also. If the patient is much exhausted by previous disease, he must be vigorously and judiciously supported. If, on the other hand, he has been suddenly prostrated whilst in full health, there need be no call for stimulants. Such a patient is almost certain to have more or less sympathetic fever, and until immediate union has taken place or suppuration has supervened, the fever may be kept in check by some ordinary means. But unless some serious mischief be setting in, such as inflammatory deposits elsewhere, it may well be doubted if anything special be required beyond seeing that the skin, kidneys, and bowels are all acting fairly. A partial want of appetite, a slight acceleration of the pulse, aye, even considerable excitement, need cause little anxiety, provided the tongue be clean and moist, and the skin gently bathed in perspiration. But these are familiar subjects, and I need not dwell on them. There is much room for judicious hygienic management at such a time. The less medicine the better; and experience has convinced me that the nearer a patient is kept to what may be considered his natural style of living, the less will be the shock from operation, and the more rapid will be his recovery. Indeed I am convinced that in the majority of surgical maladies this is the safest course to follow. If a man takes beer, spirits, or wine, I believe it unwise to withdraw them entirely, unless for special reasons in a particular case. In various forms of venereal, for example, it is common to alter a man's diet, particularly to keep him very low. I not only doubt the wisdom of this, but am convinced that in many instances much harm is the result. But I am touching ground scarcely within my present scope, and shall only repeat what I have already stated regarding treatment after operations, that in my opinion the nearer the patient is kept to a normal condition the better will be the progress of the case.

My object in this lecture has been to endeavour to place the cutting operations in surgery upon a proper footing. Because a man, even a most accomplished medical man, cannot appreciate or enact this part of our profession, it is most absurd that he should abuse and attempt to depreciate it; and, above all, it is highly improper that such an important step and crisis as an operation should be held as a proceeding to be got over in any way. The common saying, that "what is worth doing is worth doing well," is surely as applicable where human life is at stake as to the ordinary affairs of man; and as I hold that hospital surgeons and those in public appointments to large institutions should be model men, each according to his abilities and opportunities, I have ventured to refer to public practice, or teaching practice as it might be called, in the way I have done, because I think, with all humility, there is ample room for improvement.

Whilst estimating highly, as I do, the value of well-devised and well-executed cutting operations, and holding the opinion that these constitute the highest department of what some affectedly call "pure surgery," they in reality amount to a comparatively rare portion of true operative surgery. Many people have the idea that a surgical operation must of necessity be done with a cutting instrument, but it may be said with truth that probably not a tithe of manual surgery is of this kind. The varied applications of the fingers and hands in diagnosis, in dressing wounds and sores, in strapping and bandaging, in tying threads and making knots, in setting dislocations and fractures, are all, in my opinion, as much in the department of operative surgery as when the knife is in use; and what man of experience will not admit that catheterism has often cost him more trouble and anxiety than lithotomy? These are "pure surgery" as much as puncturing with a lancet on the face for erysipelas, or cutting from hip to heel with a bistoury for the same disease. I will not admit that this manual

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practice is less worthy of consideration than, or is of inferior grade to, wielding a pen. The popular idea is, that when the pen is used, some deeply garnered, highly cultivated skill is laid on paper in the form of a prescription; and so it may be. But why should it not be allowed that the correct wielding of a knife by the surgeon emanates from the brain as well?

It is the pride of modern surgery to prescribe as well as to act. There is head work in it as well as hand work. Without action, prescription would be useless; without prescription, surgery would be without soul!

I have endeavoured in this lecture to give each department its fair place and characters without disparagement to others; and, regarding all that I have spoken of to-day, there need be no doubt that favourable progress has been made in this the nineteenth century. Cheselden boasted that his first twenty-five operations for stone were witnessed by "above twenty" persons. There was no medical press—no "fourth estate"—in his day. Now, in our hospital practice, we can refer to witnesses by the hundred; and addresses like these are not confined to magnates such as I see before me, but are sent by our journals over the length and breadth of the world.—*Lancet*, July 15, 1865.

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Clinical Remarks on the Present Epidemic of Diarrhœa.—Dr. Greenhow, of the Middlesex Hospital, said that he regarded the existing prevalent diarrhœal disease as due to the great heat, drought, and exceptional character of the present season, which, in several respects, resembled that of former years, in which diarrhœa or cholera had been epidemic. He was not prepared to pronounce decisively how excessive heat produced an epidemic of diarrhœa, but of the fact that it did so there could be no question, diarrhœal disease being much more prevalent in hotter than in colder climates, and in hotter than in colder seasons. He had himself, from the character of the early part of the present season, expressed his expectation of the occurrence of a considerable epidemic of diarrhœa during the autumn, and his anticipations had been so far verified by the event at an unusually early period of the year, for the mortality from this disease during the past week had been greater than during any corresponding week of the last twelve years; more than double that which took place during the corresponding weeks of any one of the years 1857, 1858, and 1859, when diarrhœa also caused a very large mortality; and more than five times as great as that during the same week of either of the years 1853 and 1854, in which the last epidemic of cholera occurred. This excess of mortality from diarrhœa several weeks earlier in the season than usual obviously corresponded to the unusual heat of the spring and early summer of the present year, and it seemed to him only too probable that, unless a considerable change should take place in what had been aptly termed the constitution of the year, the existing prevalence of diarrhœa might be only the beginning of a very serious epidemic of this disease, or possibly, even, of cholera. He remembered a similar observation made some years since by Mr. Thorn, an Indian Surgeon of great experience, who had devoted special attention to the influence of season and weather in the causation of disease. Writing at Kurrachee (Scinde), in the autumn of 1846, Mr. Thorn said that, observing from the weekly report on the meteorology of London published in the *Medical Gazette* that the season there as well as in India was an unusually hot one, he should expect to hear in consequence of an unusual prevalence of diarrhœa in London during the autumn. The correctness of this prediction was strikingly proved, for at the very time it was made diarrhœa was prevailing extensively in London, and actually caused in that year a much larger mortality than during any previous year since the commencement of the present more accurate system of registering the causes of death.

Autumnal diarrhœa had been often ascribed to errors of diet or to checked perspiration. Doubtless errors of diet were often the immediate exciting causes of such attacks, especially during an epidemic period, but they could not be the only or even the principal causes of the disease, or it would prevail more equally during the autumnal seasons of different years. Neither could checked perspiration be a general cause of epidemic diarrhœa, inasmuch as the prevalence of this disease waxed and waned with the rise and fall of the thermometer, was greatest when a high atmospheric temperature was associated with deficiency of atmospheric movement and with a high reading of the barometer, and was diminished instead of being aggravate

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by any fall of temperature. Whether, on the other hand, heat alone could produce an epidemic of diarrhœa might be a question; he himself believed that whenever the intensity of this disease was great a miasm arising from the decomposition of certain animal matters by heat was the chief cause. Whether this decomposition could proceed in water as well as in air, he had not yet been able to satisfy himself; but he had had positive proof that water could absorb the miasm, and thus frequently become the means of introducing it into the system.

In the cases of diarrhœa which he had lately seen, and especially in those among children, the purging had for the most part been profuse, watery, and attended by much prostration. The pallor and anæmia which ensued even after a brief attack were indeed very remarkable. He had seen no cases as yet this season to which the term malignant or Asiatic cholera could properly be applied; but in a few instances there had been vomiting and cramps, and the cases resembled what was called by Sydenham cholera morbus, and had since been termed summer cholera. Generally, the diarrhœa had been unattended by pain; but there had also come under his care a few cases of dysenteric character—that is to say, of diarrhœa attended by tormina and tenesmus, in which the stools were mixed with mucus, and in a few instances with blood.

As regarded treatment, his usual course in the severer cases among adults was to give a mild mercurial, such as two grains of calomel or four grains of gray powder with one of opium at bedtime, following it up with a dose of castor oil next morning Meantime, by way of allaying the purging and the sickness, if present, he gave at intervals of three or four hours a draught consisting of an ounce and a half of lime-water with ten grains each of nitrate of bismuth and carbonate of magnesia and twenty drops of aromatic spirits of ammonia. Under this treatment the diarrhœa usually disappeared rapidly; but the patients remaining anæmic, and sometimes dyspeptic, he was in the habit of prescribing a warm vegetable bitter, such as infusion of gentian or chyretta with compound tincture of cardamoms, in combination with either nitro hydrochloric acid or bicarbonate of potash, according to circumstances, to be taken two or three times a day until convalescence should be established. He objected to the use of chalk mixture and of powerful astringents in these cases, although it was true that they often speedily checked the diarrhœa, because he had found the complaint more apt to recur and to be followed by an intractable form of dyspepsia after the use of these remedies than in cases which had been treated in the manner he had described. He had also found diluted sulphuric acid, which was so much recommended for epidemic diarrhœa, less efficacious than the before-mentioned remedies, and moreover objectionable on the score that, even when given in combination with opium, it frequently caused griping pains. When the diarrhœa assumed a dysenteric character, he had adopted with success the same general plan of treatment, but had found it necessary to repeat the mercurial and castor oil doses for two or three successive days. In cases in which this form of the disease proved obstinate, he had substituted for the lime water draught the nitrate of bismuth with small doses of morphia in the form of pills with the most satisfactory results. In all cases he had directed a rigid adherence to a milk and farinaceous diet during the continuance of the diarrhœa.—*Med. Times and Gaz.*, July 22, 1865.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Chief of the Bureau of Medicine and Surgery, U. S. Navy.—This position, rendered vacant by the death of Dr. Wm Wheelan, has been filled by the appointment of Dr. Phineas J. Horwitz.

University of Vermont, at Burlington.—At a recent commencement in this school the degree of M. D. was conferred on 32 candidates.

St. Louis Medical College.—At the annual commencement of this school, held on the 3d of March last, the degree of M. D. was conferred on 57 candidates.

University of Louisville.—At the public commencement of this college, held on the 1st of February last, the degree of M. D. was conferred on 26 candidates.

Obituary Record.—Died, in Nashville, July 9th, 1865, aged 84, Felix Robertson, M. D.

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FOREIGN INTELLIGENCE.

Death from Chloroform.—We regret to learn that a case of this happily rare accident took place last week at the Meath Hospital. The patient was an elderly man, on whom it was necessary to operate for cataract. He was placed under the anæsthetic influence by a clinical student, with the immediate superintendence of the operating surgeon, and the operation on one eye had been effected when he was observed to change colour, and in spite of the use of galvanism and other nervous stimuli, he expired. An inquest and post-mortem examination was subsequently held, when the heart was found in a very soft and fatty condition. No arcus senilis existed, nor had any morbid sound been detected on auscultation, and as he had been already twice placed under the influence without ill effect, the case must be regarded as one of those untoward occurrences against which it is impossible to guard.—*The Medical Press* (Dublin), July 12, 1865.

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Recent Progress of Nerve Histology.—At the College of Surgeons on the evening of the 24th of February, Prof. Allen Thompson, of Glasgow, delivered a very comprehensive, clear, and eloquent lecture on the "Recent Progress of Nerve Histology." He commenced by indicating the relations between the anatomy of the nervous system and its physiology. He then proceeded to show how much the recent progress of our knowledge depended upon the excellence of our microscopes, and remarked that we were indebted to the use of various reagents, especially to chromic acid solution and the staining the structures with ammoniated solution of carmine, for much of our present knowledge. The effect of carmine was especially marked in our anatomical knowledge of the spinal cord. Under carmine-staining, prolongations of the pia mater were seen to extend into its substance. The structure of the cord was found to consist of nerve-tubes, which presented under the microscope dark spots surrounded by an outer coat when subjected to carmine solution. Dr. Thompson appears to be doubtful as to the benefit to science to be derived from the more recent improvements in microscopic object-glasses, and seems to doubt whether object-glasses of the one-twenty-fifth and one-fiftieth of an inch focal distance will conduce greatly to the extension of our certain knowledge. The lecturer afterwards pointed out what the recent progress was, more especially as to the more accurate knowledge of the structure of the spinal cord, the nature of nerve-cells, and the terminations of nerves in the skin, muscles, eye, nose, &c.; and showed what Lockhart Clarke and others had recently done to elucidate these doubtful questions. The lecture was listened to with much interest by a large and attentive audience, and at its conclusion the lecturer was deservedly thanked for his able exposition of a very interesting subject.—*Lancet*, April 8, 1865.

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Mucous Polypus of Larynx.—Prof. Gilewsky, of Krakau, lately related to the Vienna Medical School a case of mucous polypus of the larynx in a young woman, which he had removed by dividing the thyroid cartilage. Very little bleeding followed. Professor Türck said he was convinced that laryngotomy was in many cases the best operation for the removal of laryngeal polypi.—*Ibid.*

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Military Surgery in France.—A work of paramount importance, modestly called a Report to the Medical Board of the Army, has lately been published by M. Chenu, a high authority in the Medical Department. It is entitled, "A Medico-Chirurgical Report on the Flying and Stationary Hospitals of the French Army during the Crimean Campaign." It has no less than 800 quarto pages, and more than one hundred tables and statistical computations. The author, says the *Gazette Médicale de Paris*, has been anxious to publish facts, irrespectively of every consideration; and we doubt not that the book will be eagerly sought by military surgeons in this country, as Mr. Longmore's is in France. M. Chenu is extremely minute in his classification, both as regards the field and hospitals; and the labour bestowed must have been immense. The comparative mortality of the French and English armies is thus stated:—

	French Army.	English Army.
Effective men	309,268	97,864
Deaths	95,615	22,182

The work is divided into numerous parts, including all the injuries and diseases which have been observed. Wounds from gun-

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shot occupied much of the author's attention, and he dwells particularly on the fact that such wounds, owing to the peculiar firearms now used, are more serious and more frequently met with than formerly. Herein he quite agrees with Inspector Longmore, who states that the army of the Duke of Wellington on the 16th, 17th, and 18th of June, 1815, including the battle of Waterloo, had 8000 wounded, whilst at Solferino the Franco-Sardinian army had 16,000, and the Austrians 21,000. Hence the necessity of increasing the surgical material and the medical officers in any future campaign. The author gives a vivid and extremely true picture of the perils and hardships of the non-combatant military surgeon. The following figures show the relative sacrifice of life among combatant officers and military surgeons: In the Crimean campaign, of 5852 combatant officers of every rank, 779, or 17 per cent., were killed or died from wounds received in the field, and 402, or 7.30 per cent., died of various diseases (these figures include the commissariat, chaplains, &c. &c.). The mean number of medical men was 450, of whom 82, or 18.22 per cent., died of various diseases. The typhus at Constantinople carried off 26 combatant officers—viz., 0 17 per cent., whilst, by the same scourge, 58 medical officers perished—viz., 12.88 per cent. These figures speak for themselves.—*Lancet*, May 20, 1865.

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Cholera in Mecca.—The *Trister Zeitung* of June 26 publishes a report from Alexandria on the cholera in Mecca, in which it says: "The Musselman festivals of the Kurban Bairam took place during the first twenty days of May, when 600,000 to 700,000 pilgrims annually assemble in Mecca and upon Mount Ararat to celebrate their pilgrimage with the usual religious ceremonies. The mode of life, utterly opposed to all rules of dietetic prudence, pursued by these crowded masses for ten or fifteen days at the Holy Places, yearly entails a number of diseases to which many are sacrificed. This year the cholera, or, as the Government prefers to call it, cholerina, was added to the customary pests, and is said to have carried off 20,000 people at Mecca and Gebel Ararat within the short space of two months. Private accounts place the loss of pilgrim life at 100,000, an estimate obviously exaggerated, as these do not even include the deaths by cholera. We, in Alexandria, have no more exact details as to this terrible drama, which makes no extraordinary impression upon the pilgrims themselves, who, in their religious fanaticism, believe every one is certain of Paradise who dies during pilgrimage. The country being at all times inaccessible to European medical men, the meagre reports we have are derived from a few Egyptian military surgeons ordered by the Government to accompany the pilgrims from Egypt."—*Med. Times and Gaz.*, July 8th, 1865.

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Progress of the Cholera.—It appears from our late journals (Aug. 12th) that the cholera which has for some time prevailed in Egypt and carried off a large number of victims in Alexandria is steadily extending along the basin of the Mediterranean. It has appeared at Cyprus and telegrams of the 28th of July state that from 40 to 50 fatal cases were occurring daily. It has also broken out at Delos. At Smyrna the disease was very rife. It prevails generally at Constantinople and in the villages in the neighbourhood. One village on the Bosphorus, Yenikeni, is reported to have suffered severely. It has appeared in Italy. At Ancona on the 4th of August 34 deaths were reported. In Malta both the civil and military population are suffering from the disease. It has appeared in Sicily, some cases occurred in Catania and Palermo. Several cases have also occurred at Marseilles.

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Insanity, Medical and Legal.—Dr. James Rorie, in the *Edinburgh Med. Journ.* for July, attempts to give a definition of insanity. In concluding, he says: "We have seen that a very important difference exists between insanity regarded as a medical and lunacy regarded as a legal question. While the former applies to a disease which may or may not destroy responsibility, the latter demands that irresponsibility be proved, before it can be admitted as a plea; and the great puzzle of the present day with regard to civil incapacity and irresponsibility is, how to bring insanity under medical treatment before it has rendered the individual legally irresponsible. Into this subject I cannot at present enter, and will now close with the practical inference that it is the duty of the medical practitioner, in giving evidence as

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to the mental condition of a person on trial for outraging the laws of his country, to satisfy himself that the insanity destroys responsibility before certifying him to be a lunatic. To certify a person in such circumstances to be insane because he appears unable to control his actions is to offer a medical theory where a medical fact is demanded, and is to become an advocate of that pseudo-philanthropy which would insist on moral perversion being legally recognized as proof of irresponsibility—a state of matters which would be fraught with the greatest danger to all our social interests. The depravity, immorality, and low cunning of a convict may resemble in some respects the character of the true moral lunatic; but for such cases seclusion in Portland or Pentonville is the best of moral remedies, and in dealing with such, the medical practitioner should never forget that laws 'cannot be framed on principles of compassion to guilt.'"

—

How the Exact Spot at which the Fault in the Atlantic Cable was Determined.—The following highly interesting information obtained from Mr. Seward, the general superintendent of the Atlantic Telegraph Company, is published in the *Med. Times and Gaz.* (Aug. 12, 1865).

"The Atlantic cable consists of a certain number of copper wires, each of which is insulated by a covering of gutta percha, the whole being further protected by a general envelope of iron wire and tarred hemp.

As long as the cable was intact, an electric current sent from the positive pole of a battery at Valentia traversed the whole length of one of the copper wires, and thence went through the bottom of the ship, and through the sea and bottom of the ocean, until it reached the negative pole of the Valentia battery. This return current through the bottom of the ship, sea, and land is what is technically known as the "earth current." Now, although copper is one of the best conductors, it is still not an absolute conductor; it opposes a certain amount of resistance to the electrical current, and consequently requires a certain number of "*cells*" to force the current through it.

The resistance increases in direct ratio to the length of the wire; and as the resistance can be measured, it follows that the length of wire in connection with the battery can be determined.

It is possible to estimate the resistance by the number of cells necessary to transmit signals clearly. This would, however, be a very rough method; but very fine galvanometers have been constructed which show the exact amount of current transmitted. The galvanometer of Professor Thomson, of Glasgow, is perhaps the most delicate, and was the one which was used in the case of the Atlantic cable.

Before the cable started, exact calculations were made as to the amount of resistance per mile of the copper wire. Let us suppose that the resistance of the entire length was found to be 100 units. The cable parted—let us say at its centre—and one end fell to the bottom of the ocean. What would be the result? A current starting from the positive pole of the Valentia battery would now traverse half up the cable, and then return through the earth to the negative pole of the battery. As the current had only half of the number of miles of copper wire to traverse, it would only experience half of the resistance, or 50 units, and thus the force of the electric current would be shown by the galvanometer to be double what it had been previously. This is the principle upon which the electricians at Valentia have decided that the Atlantic cable has parted about 1250 miles from land.

The signals from the *Great Eastern* ceased. The electricians applied their galvanometers, and found that the force of the electric current was greatly increased. They judged that it had a shorter circuit to traverse. They knew the number of units of resistance possessed by each mile of copper-wire. They were able to interpose artificial resistance by means of certain instruments. They added on mile after mile of artificial resistance just like so many weights, until their galvanometers showed that the force of the current was reduced to what it had been when the cable was perfect. They then made an easy calculation, and determined the spot at which the cable had given way. They found that the end of the cable communicated with the ground 1250 miles from the shore end. In technical parlance, they had dead earth at 1250 miles' distance.

The last time that an Atlantic cable

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parted, voltaic action was set up by the action of the salt water upon its copper and iron wires. This produced what are termed battery currents. These battery currents have not in the present instance been set up, probably because the iron wire is better protected than it was in the last cable.

We have heard a great deal lately about electrical storms. The atmosphere is always electrical, but usually the electricity is quiescent. Under certain conditions, however, the electrical state of the atmosphere is disturbed. Lightning is not a necessary consequence, but currents of positive and negative electricity keep darting about.

The electricity is of very high tension; that is to say, it is capable of being conducted by substances which are almost absolute non-conductors to mere voltaic currents of very low tension. The electricity of the atmosphere, then, is able to strike a wire in spite of its so-called insulating medium. It pierces the gutta-percha covering, and darts along the wire, utterly swallowing up the artificial currents which it may meet, and spoiling the telegraphic communication for the time being. A storm of this kind began on Wednesday, the 2d instant, and continued till Sunday, the 6th, and at first it was fondly hoped that the cessation of the signals from the *Great Eastern* was due to this cause. The storm has ceased, but the signals have not been resumed, and no doubt ere this manuscript be printed the *Great Eastern* will herself have returned to tell us of the loss, and of the manner of it. Under such circumstances, it is idle to speculate. We shall soon know whether the electricians on board were deceived by the electrical storm, and, in trying to remedy a supposititious fault, destroyed the cable, or whether some other accident occurred."

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Children Murderer.—One of the most atrocious examples of depravity on record has recently been brought to light in England. The editor of the *Lancet*, in his editorial (Aug 5, 1865), thus comments upon it.

"Now and then some criminals stand forth in terrible relief, and by the enormity as well as intensity of their misdeeds for the moment astound our senses by some new revelation of the possible scope and extent of human wickedness. Such an instance has just occurred at Exeter, where a woman named CHARLOTTE WINSOR has been sentenced to death for child-murder. The details of her crimes are immeasurably more shocking than any on record. There is reason to believe that for a long period she had systematically pursued, as her recognized calling, the terrible trade of child-murder, and had in its exercise organized a scale of charges to suit the pockets or to meet the necessities of those whose crimes or misfortunes brought them within her reach. The details of this woman's horrible career have no parallel in the history of human wickedness. Human life was her stock in trade; money her sole inducement to its destruction. Murders have before this been committed through desire for gain, but no such murders as these. Infants, in all their dependency, were her victims. Helpless babes, whose only offence was the accident of their birth, found in this female fiend a kind nurse, who nipped their lives in the bud. Hers was not the shame of their parentage; hers not the burden of their support. She had no inducement beyond the receipt of a paltry payment, and this was at times a matter of promise. Infant murder was her vocation. To what extent she has pursued it is known only to Him who specially careth for little children. It would serve no practical purpose to examine the particular incidents of her repeated crimes, so far as they were given in evidence upon this wretch's trial. The mother and murderess bargaining for the destruction of the smiling babe; the murderess removing the infant from its last earthly embrace to place it between the folds of the suffocating bed; the mother in the adjoining room waiting to hear the result, and then assisting in disposing of the body of her lifeless little one, and all within the scope of a "business" visit, is a horrible picture, and yet it is true. While this was being enacted, the cry of the child still echoed in the ears of the murderess. The mother, bewildered with the enormity of her offence, with senses stupefied, heard not the death-struggle of her infant. Its last moan struck upon the hardened heart of the practised destroyer, and she was 'frightened.' That cry called out for vengeance; and such vengeance as the forfeiture of one life can afford for the destruction of many, society will shortly obtain. This woman's crime is even more horrible for what it suggests than for that which it

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details. Her position was recognized, and had long been known. Many children had been seen in her house. Many infants, waiting a convenient season for their destruction, must have been observed by her neighbours; and yet, on their disappearance, no one gave utterance to a word of suspicion until the wild waves proclaimed, on the beach at Torquay, the last crime that she had committed. She must have had numerous confidants: young women betrayed and forsaken, or it may be profligate or forsworn, but still young, with perhaps many years to live, carrying with them a sense of terrible crime—not the less terrible because at present undiscovered. They must now tremble lest, in her revenge, if not in her remorse, she who for a brief space inhabits the convict cell should reveal their names, that they also may meet the punishment so justly their due."

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Procreation of the Sexes at Will.—At a late meeting of the Academy of Sciences an interesting memoir was presented by M. Coste. The learned Professor of Embryology at the Collége de France, who has already produced so many remarkable and well known works on this important branch of the natural sciences, related a series of experiments which he had been led to undertake by the publication of M. Thury's (of Geneva) theory on the procreation of sexes at will. This theory, it will be remembered, is grounded on the idea that the ovum passes through two distinct phases: a first period, which corresponds with a lesser degree of maturation, and during which the sex is female; and a second period, one of more advanced maturation, during which the egg is male; and according as fecundation takes place at the beginning or at the end of maturation the product will be male or female. M. Coste's first experiments were made on multiparous animals, chiefly fowls. If we suppose the seminal fluid to be diffused at a given moment on the ovary, and consequently on the ovules which still adhere to it, according to M. Thury's theory the first ovule which tears its covering and issues into the oviduct is necessarily the one which bears the highest degree of maturation. As a single coition permits a hen to lay during twenty days after, it follows that the last ovules which quit the ovary are at the moment of fecundation far less advanced in maturation than the former; these, then, should give male products, and the others female. According to M. Coste this is not the case, and in all his experiments made on hens the first egg was always infertile, whilst the following were indiscriminately male or female. Fecundation may be supposed to take place in the Fallopian tube, and not in the ovary, the sperm being arrested in the pavilion, or at the extremity of the oviduct. But then, each egg which comes into contact with the fertilizing liquid having attained the same degree of maturation, all the products should be male, which is not the case. Other experiments were made on rabbits, to which M. Thury's theory was equally applicable; that is to say, females fecundated when the period of rutting has just commenced should give birth to females, and *vice versâ*. Experience has given a contrary result, and a she-rabbit, having been fecundated at the very outset of the period of rutting, produced a greater number of males than females. M. Coste proposes to examine in a future paper the same phenomena amongst uniparous animals.—*Lancet*, June 3, 1865.

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The Hastings Gold Medal of the British Medical Association.—This medal has been awarded this year to Dr. Barker for his essay on "Deodorization and Disinfection."

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The Astley Cooper Prize.—This prize of fifteen hundred dollars has been awarded to Mr. Jonathan Hutchinson for his essay on "Injuries of the Head and their Treatment."

The subject selected for the next prize, to be awarded in 1868, is *Pyemia*.

—

Mr. Lawrence.—This venerable and very eminent surgeon, who has for many years been the senior surgeon of St. Bartholomew's Hospital, has retired from the post he has so long and ably occupied.

—

Prof. Malgaigne.—This eminent surgeon has resigned the surgical chair at the Faculty of Medicine of Paris, in consequence of failing health.

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McGill University, Canada.—At the annual convocation of this school, held on the 3d of May last, the degree of M. D. was conferred on 35 candidates.

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JONES ON FUNCTIONAL NERVOUS DISORDERS, 16 PAGES.

CLINICS.

CLINICAL LECTURES.

Clinical Lecture on Diphtheria. By EDW. HEADLAM GREENHOW, M. D., Assistant-Physician to the Middlesex Hospital. (Continued from p. 149.)

I must not conceal from you, indeed, that in a very large majority of cases tracheotomy does not succeed in saving life. No sufficient data exist from which to estimate accurately the average success after this operation, either in England or in this metropolis; but, judging from my own observation and from information obtained from others, it has been very small. In France and also in Scotland the average of success after tracheotomy would seem to have been decidedly larger. In the former country, Trousseau, the celebrated Professor of Clinical Medicine at the Hôtel Dieu, has operated in more than 200 cases, of which fully one-fourth recovered; Bretonneau in 20 cases, of which six recovered; Bouchut in 160 cases, of which 45 recovered; and Velpeau in 10 cases, of which he saved 2. In Scotland, Mr. Spence, of Edinburgh, has operated in 54 cases, of which 19 recovered; and Dr. Buchanan, of Glasgow, in 15 cases, of which 5 recovered. It is true that many of the Scotch cases, and doubtless also many of the French ones, were cases of sporadic croup, in which the operation is more likely to be successful than in true diphtheria; but, excluding these, Mr. Spence has had 7 recoveries, out of 18 cases in which he has operated for diphtheria; and Dr. Buchanan 2 out of 8; although in almost all these cases death appears to have been imminent from apnœa at the time the operation was performed. It may prove to be true, as Mr. Spence observes in the paper from which I have taken the statistics of his cases, that such an average of cures will perhaps scarcely be maintained; but the fact remains that in the practice of these two gentlemen 9 out of 26 children have been brought back, as

Published monthly by HENRY C. LEA, Philadelphia, for One Dollar a year; also, furnished GRATUITOUSLY *to all subscribers of the "American Journal of the Medical Sciences," who remit the Annual Subscription, Five Dollars, in advance, in which case both periodicals are sent by mail free of postage.*

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it were, from the very brink of the grave by the successful performance of tracheotomy for diphtheria. This amount of success, in my opinion, renders it imperative upon us, not only to recommend the operation in all suitable cases, but even to urge it in such cases at the time which affords the best hope of saving life, taking every precaution to insure those details of management after the operation which contribute most essentially to its chances of success. Here, therefore, arise three practical questions—as to the proper cases for tracheotomy, the proper time for performing the operation, and the proper management after its performance—on each of which I can give you to day merely a few suggestive hints.

With regard to the first question—namely, the proper cases for tracheotomy—you must never lose sight of the fact that tracheotomy is not in itself a curative, but simply a palliative measure; that it is not performed with the view of saving life by arresting the disease, but only with that of preventing the disease from destroying life by its local effects. The proper cases for operation are, consequently, those in which the local effects constitute the only pressing danger, and are so situated that it is possible for tracheotomy to relieve them; that is to say, when the urgent symptoms arise only from the obstruction to respiration, and when that obstruction appears to be situated chiefly in the larynx or trachea, and not below the point where the trachea can be opened. If therefore, on auscultation, we discover the existence of pneumonia or extensive bronchitis, or if we have reason to believe that the exudation already extends in any considerable degree into the bronchial tubes, the operation would be useless and should not be attempted. On the other hand, dulness on percussion, unattended by moist râles, and supposed to proceed from collapse of a portion of the lung, does not preclude the operation; for, as we have seen, this collapse is caused by the very obstruction which the operation is calculated to relieve: but, at the same time, it very greatly diminishes the chances of success, by diminishing the patient's ability to cough up the membranous or mucous obstructions to respiration. The chances are still less in cases complicated by any of the symptoms due to the severity of the constitutional affection; yet, even in such cases, if I found the laryngeal symptoms alone threatening imminent death, I should think it right to give the patient the respite and relief almost certain to be afforded by the operation, though I should not fail to apprise the patient's friends that the presence of such complications rendered the prospect of recovery all but utterly hopeless.

Next as to the proper time for performing the operation. It has been the rule in this country to defer tracheotomy until death from apnœa appeared imminent, and this postponement of the operation has in my judgment been one cause of its general ill-success. I should, therefore, be inclined to lay it down as a rule, that in all favourable cases for tracheotomy, whenever medical treatment has failed to arrest the disease, and the cough and dyspnœa are becoming more and more urgent, and above all, when any lividity from imperfect aëration of the blood makes its appearance, the operation should not be delayed. Whatever may be the risks which, in cases complicated with serious constitutional symptoms, render tracheotomy advisable only as a last resort against impending suffocation, it is in my opinion certain that, in cases not so complicated, the chances of success after the operation are in direct proportion to the promptness with which it can be performed after the accession of the symptoms indicating its necessity. This stands to reason if the view I have taken of the causes of death in the case before us be correct, for it is evident that the earlier performance of the operation will give the patient a better chance of escaping the bronchial and pulmonary complications produced by the local obstruction to respiration.

It remains to consider the question of proper management after the operation; for however successfully this may have been performed, the danger is not therefore over—our duty is but half done. The operation has indeed warded off death in its lately threatening form, but the disease remains. A respite, however, has been secured, during which the patient may possibly pass safely through the illness; for though diphtheria has not the definite duration of some other diseases, it does, nevertheless, wear itself out in time, and the patient recovers if he can be kept alive long enough. Next, therefore, in importance to the immediate success of the operation, is the after-management of the case, which resolves itself

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mainly into three principal points—viz., the clearing away as far as possible of all obstructions to respiration, the prevention of all causes of catarrhal irritation, and the liberal administration of the best kinds of nourishment. To secure the first of these objects not only must the inner canula be carefully kept clear, being removed for that purpose at least once in two hours, but any mucus or loose flakes of membrane within sight of the orifice should be carefully removed as soon as they are discovered, otherwise they will be drawn in again by the act of inspiration. Any accumulation of mucus, or any loose false membrane below the opening can of course only be expelled by coughing, but their expulsion may sometimes be facilitated, when the patient's strength permits, if from time to time, when he has taken as deep an inspiration as possible, the finger of the attendant be momentarily placed on the mouth of the canula, and then suddenly removed when the effort to cough has been excited. The supervention of catarrhal irritation is to be guarded against by protecting the patient from inhaling either too cold, or on the other hand too dry, warm air. It has been usual in the hospital to endeavour to secure these objects by placing the patient's bed near the fire, surrounding it closely with curtains and screens, and at the same time moistening the air of the little chamber so contrived, by directing into it a current of steam through a tube attached to the spout of a large tea-kettle. Being, however, of opinion that pure air and free ventilation are quite as indispensable as warm and moist air, I have tried several modifications of this plan with private patients, but, on the whole, incline to the plan, originally suggested by Trousseau, of covering the mouth of the canula with a knitted woollen veil, or a wide piece of muslin, applied loosely round the throat like a cravat, in such manner that the patient's breath may warm and moisten it as he exhales, and that it may in turn warm and moisten the air he inspires without impeding the free renewal of air around him. Lastly, in a disease characterized by such extreme depression, it is essential to give the patient an adequate amount of support in the form of food and wine; bearing in mind always that not the actual amount administered, but only the amount which can be assimilated, will do the patient good. So all important do I consider the keeping up of the patient's strength by means of nourishment, that I never hesitate to abandon any medicine when I find that its administration prevents the taking of a sufficient quantity of food. For the same reason I can lay down no positive rules as to the kinds of food to be given; they should be not only nutritive and easily taken, but, as far as possible, acceptable to the patient. Very strong beef-tea, jelly, eggs and milk, with wine or brandy at frequent intervals, will generally be the best diet for some little time after the operation. If, a day or two later, liquids begin to regurgitate through the nostrils and to find their way through the canula, which I attribute to the accession of the secondary paralytic symptoms so common after diphtheria, then it is necessary to have recourse to soft or soaked food, which can be swallowed with greater facility than liquids, and with greater certainty of conveying the required nourishment.

At the beginning of my lecture I proposed to relate successively two cases as examples of the two principal forms of diphtheria. We have now fully considered the case belonging to the first of these forms, and have dwelt upon the special means available to meet the local danger; it remains therefore now to give you the history of the case belonging to the other form.

W. M———, aged fifteen years, was admitted into Cambridge ward, under my care, on Dec. 29th, 1864. Six days before admission the boy had complained of sore-throat and of difficulty in swallowing. His appetite had failed; he became feverish and so prostrate in strength that he took to his bed. On admission into the hospital his face was flushed and his expression anxious; his skin was hot; pulse 94, feeble and easily compressible; tongue coated with a thick white fur on the dorsum, red at the tip and edges; urine normal. The glands at the angles of the jaw were swollen; he had much difficulty in swallowing; the soft palate was red and pulpy-looking, and bled on being accidentally touched with the spatula; both tonsils were enlarged and inflamed, and upon the right one there was a small patch of adherent exudation. I ordered a large hot poultice to be applied round the throat, and the tonsils and soft palate to be lightly brushed over twice a day with a mixture of the tincture of sesquichloride of iron and honey in equal parts. I prescribed

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a draught containing fifteen minims of tincture of sesquichloride of iron, five minims of diluted hydrochloric acid, five grains of chlorate of potash, and an ounce of caraway water, to be taken every six hours; and ordered as diet, milk, strong beef-tea, eggs, and sherry.

There was no material change in the patient's state on the 30th, and the same treatment was continued, excepting that a thick padding of cotton-wool was substituted for the poultice round the throat. On the two following days he appeared somewhat better; he slept well, and said that he felt stronger. The tongue was less coated, and the injection of the soft palate had greatly diminished, but the tonsils remained large, and seemed to be superficially ulcerated. The boy's skin was cool, his breathing quiet, and he took wine, beef-tea, and other liquid nourishment freely. On the evening of the second day, however, vomiting supervened; he slept badly, and next day (Jan. 2d) was much more prostrate. His pulse was reduced to 76, and was very feeble. The voice had become hoarse and rather nasal, and there was a thin sanious discharge from both nostrils. The glands at the angles of the jaw were hard, swollen, and tender, especially on the left side. The soft palate and the pillars of the fauces were again deeply injected and œdematous, and there was a patch of exudation of the size of a split-pea on the left tonsil. The urine had an acid reaction, and, for the first time, contained one-fifth of albumen. He retched from time to time, mostly after taking food, and brought small quantities of glairy mucus tinged with blood. On Jan. 3d there was slight epistaxis; the vomiting continued; there were patches of exudation on the posterior wall of the pharynx; and the urine contained one-fourth of albumen.

Jan. 4th.—The soft palate and fauces on the right side were more injected, and the right pillar was perforated by a small ulcer. Pulse 72, very weak and compressible. Only about an ounce and a half of urine had been passed during the last twenty-four hours, containing more albumen than before.

Throughout the following day he continued to sink; complete suppression of urine took place; he refused both food and medicine, and died early on the morning of Jan. 6th.

At the post-mortem examination the soft palate and pillars of the fauces, with the parts at the base of the tongue, the epiglottis and the aryteno-epiglottidean folds, were found to be very œdematous. The mucous membrane of the fauces was intensely red, and on the uvula was a small yellowish-white patch of slightly adherent false membrane. The tonsils were much enlarged, and on the inner aspect of each was an ulcer with a sloughy surface. The tissues surrounding the tonsils were infiltered and brawny, the tonsils themselves very hard, of a brownish-red colour on section, and sloughy in the centres. The under-surface of the epiglottis was covered by a yellowish, slightly adherent patch of false membrane. The mucous membrane of the trachea was reddened and somewhat rough, especially towards the lower end; that of the larger bronchial tubes was intensely injected. The tubes going to the lower lobe of the right lung contained a moderately firm black coagulum. Beneath the pulmonary pleura on both sides there were numerous minute ecchymoses, and also a few similar spots beneath the pericardium at the base of the heart. In the lungs were several sharply-bounded masses of pulmonary apoplexy, the intervening pulmonary tissue being congested, but everywhere crepitant. The kidneys were rather large, the cortices pale, and the pyramids congested. The mucous membrane of the stomach was injected, and towards the lesser end were several small extravasations; the surface of the membrane was covered with a layer of viscid mucus streaked with blood. The mucous membrane of the smaller intestines was also reddened, and towards the lower part of the ileum vividly injected, with here and there small ecchymoses in its substance.

In this case obviously the patient died (as I have already said), not from the local effects of the disease, but from the severity of the constitutional affection. This was manifested during life by the excessive prostration, loss of appetite, albuminuria and vomiting, and, after death, by the pulmonary apoplexy, the ecchymoses on the heart and lungs, the extravasations upon the mucous membrane of the stomach and small intestine, and the congestion of the kidneys. These symptoms and post-mortem appearances, taken together, clearly prove the patient to have been suffering from a general dyscrasia, the consequence of blood-poisoning.

I must now direct your attention to an

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important point in the history of the case. Observe that the patient did not go on getting progressively worse from day to day, but that there was a period during which a manifest improvement took place, followed by the symptoms of severe constitutional disturbance which preceded death. I have now watched several cases presenting the same characters, in all of which a visible amendment of the earlier symptoms was followed by a train of constitutional symptoms precisely analogous to those which occurred in our patient, and sometimes also by purpura or ecchymosis of various parts of the body. I have only had the opportunity of making a post-mortem examination of two of these cases, and in both of them I found extravasations of blood on the internal organs, and, as in the case before us, sloughing of the tonsils.

Taking into consideration all the facts in the history of these cases, and especially the interval of amendment before the development of the constitutional symptoms, I am of opinion that these are due not so much to the primary cause of diphtheria as to a secondary tainting of the blood arising from the local disease in the fauces. Doubtless, even at the time of the apparent amendment, the tonsils were infiltrated with exudation, which led to sloughing in their centres, and this to the blood-poisoning, which manifested itself in the general symptoms and appearances described.

In some cases of this form of diphtheria the interval of amendment is longer and more marked than it was in our patient, thus showing, it seems to me, more clearly the secondary origin of the grave train of constitutional symptoms. Some time since I was called by the family medical attendant to see a little boy who had already been suffering from diphtheria for twelve days. The child was cheerful and able to take nourishment; there was but very little swelling or tenderness at the angles of the jaw, the injection of the fauces had greatly subsided, but the tonsils had a ragged appearance, and were partially covered with exudation. For several days he continued apparently to improve, though very slowly, and we still hoped he would recover, until one day a slight epistaxis occurred, albumen appeared in the urine, the throat again became injected, a few patches of purpura appeared on the extremities, retching set in with vomiting of glairy mucus streaked with blood, and he died on the twenty-fourth day of his illness. No post-mortem examination was made, but, from all the symptoms and appearances of the case, it obviously belonged to the same class as the three similar cases which I have been able to examine.

I must by no means be understood to imply that this course, with a longer or shorter interval of amendment, is the only course taken by cases of diphtheria in which the danger arises from the severity of the constitutional affection; on the contrary, you must have seen, and I could quote if time allowed, many cases in which the pharyngeal and constitutional symptoms went on progressively from day to day until the turning point, when the patient either began to recover or sank and died. I wished, however, on this occasion, to direct your attention especially to this particular course of the disease, on account of its bearings upon prognosis and upon local treatment.

As regards prognosis, we must evidently bear in mind the possible appearance of the secondary symptoms, even after the patient has seemed for some days to be going on well; and in my experience their actual supervention has always been of the gravest augury, for, coming as they do when the patient has been more or less exhausted by the primary illness, his chance of struggling through them is very small.

As regards local treatment, the importance of the lesson to be derived, according to my view of the case, can scarcely be over-estimated. Many practitioners are very fond of powerful topical applications in diphtheria. They rub the tonsils with solid lunar caustic, or they paint them two or three times a day with a strong solution of nitrate of silver, or with hydrochloric acid or Beaufoy's solution of chlorinated soda. At one time it was not unusual to rub away the exudation forcibly by means of probangs or other contrivances, in order to allow the direct access of these powerful applications to the diseased membrane, and I believe that these rough modes of procedure are not yet entirely abandoned. If, however, you consider that the mucous membrane, even in mild cases of diphtheria, is inflamed, œdematous, often tender, and liable to bleed at the slightest touch; and that, further, in cases of any severity the mischief extends to the deeper tissues, the exudation being

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not merely superficial but also interstitial, and that either ulceration or, as in our case, deep-seated sloughing is apt to follow, you will easily understand the uselessness, and even the danger, of such severe measures I need scarcely tell you that in a part the vital powers of which are already depressed, nothing should be done to aggravate the morbid tendencies which exist; and with regard to the exudation, I feel assured, from observation, that it goes on more rapidly after the surface has been artificially cleared Viewing the exudation therefore somewhat in the same light as I should a scab upon a wound, I am accustomed to be very chary of meddling with it, and rather strive to preserve it intact until it comes away naturally than to favour its detachment. But although I warn you against rough measures and violent applications, on the other hand I have seen great benefit derived from milder local treatment. In the early stage of the disease the tincture of sesquichloride of iron often has a marvellously beneficial effect upon the inflamed and injected parts, and its styptic action has a tendency to check further exudation when this process has already commenced. I therefore cause the fauces to be gently painted with it, either pure or mixed in equal parts with glycerine or honey, repeating the operation at most twice a day. When once the inflamed surface is thickly covered with deposit I cease to use any but detergent applications, such as tepid water, or weak solutions of chlorate of potash, alum, or perchloride of iron, either as gargle or injection. Where there is any offensive odour from the throat I substitute for these a weak solution of permanganate of potash, or of chlorinated soda.

Lastly, with regard to medicines, although I cannot pretend to the knowledge of any specific for diphtheria, I have found the tincture of sesquichloride of iron, in full doses proportioned to the age of the patient, by far the most valuable of the remedies in use for the asthenic form of the disease, especially in cases, which are attended by albuminuria, or in which the fauces are deeply injected and tender. When there is a hemorrhagic tendency, it is well to add to the tincture of iron a few drops of diluted hydrochloric acid. In those milder forms of the disease in which there is but little constitutional disturbance, the chlorate-of-potash mixture, with or without small doses of the tincture of iron, is, in my experience, the best remedy both internally and as a gargle. But in the matter of medicines, as I have already said with regard to nourishment, I can give you no absolute or precise directions. In this, as in all the other branches of treatment, it is only by careful and constant watching of every fresh symptom, and by making immediate provision to the best of our art against every fresh emergency, that we can hope to bring our patient safely through an illness so variable in form, and generally of so serious a character.—*Lancet*, July 22, 1865.

HOSPITAL NOTES AND GLEANINGS.

Primary and Secondary Syphilitic Sores on the Eyelids.—It is very rare to meet with a primary syphilitic sore on the eyelid, though secondary ulcers are not unfrequently seen. In the first of the following cases there can be no doubt that the sore on the upper eyelid was a chancre. How inoculation could have been effected it is difficult to conjecture; but the combined facts of its syphilitic appearance, its indurated base, the enlarged gland behind the ear, the eruption over the body, and the rapid manner in which it healed under the influence of mercury, establish beyond a doubt its syphilitic nature.

Secondary sores on the eyelid are often difficult of diagnosis, as in many cases they closely resemble epithelial ulcers; but in cases of doubt, a week or ten days' treatment with anti-syphilitic remedies will usually decide their true origin. A syphilitic sore generally commences close to the tarsal edge of the lid, which it partially destroys, leaving a notch which is somewhat characteristic. It will heal at the point where it first commenced, whilst it extends in the opposite direction; whereas in the epithelial sore there is no real repair of the ulcerated surface: it may scab over in one part, and become dry; but a reformation of healthy tissue seldom takes place. The previous history is a very material guide; but syphilis is so often vehemently denied by patients who have suffered from it, that reliance cannot always be placed on their statements with regard to it.

The four following cases are good and instructive examples of this form of malady.

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CASE 1. *Primary syphilitic sore on the upper eyelid of an infant, followed by a secondary eruption over the body.*—J. F——, aged one year and ten months, came under observation on January 24th of this year, on account of a troublesome sore on the upper eyelid of the left eye, which showed no disposition to heal. The mother stated that it commenced a fortnight before Christmas as a pimple on the upper eyelid, at the inner side, and near its tarsal edge. The child scratched it, and it became a sore, which has increased to its present size.

Present state.—There is a large, somewhat oval-shaped sore, rather more than half an inch in length, and about a quarter of an inch in depth, extending into the tarsal edge of the lid, which has been partially destroyed, and presents a sharp notch. The edges of the ulcer are indurated, and its surface is glazed. The mucous membrane of the upper lid is œdematous, and discharges a muco-purulent secretion. There is an enlarged gland behind the ear, and the whole of the body of the child is covered with roseola. The child appeared very feeble, and much out of health. It was more than five weeks since the ulcer first appeared, and, although local applications had been used, not the slightest benefit had been derived. Ordered, a grain of mercury with chalk night and morning, and dilute citrine ointment to the ulcer.

This treatment was continued until the 7th of February, when she was ordered to omit the powder in the morning, but to take one every night. The wound now speedily assumed a healthy action and began to cicatrize.

On Feb. 14th the sore on the eyelid was quite well, the rash over the body had entirely disappeared, and the child was much better in health and had grown much fatter.

Under the subsequent use of the syrup of iodide of iron, the child on the 10th of March was quite well, but was ordered to be brought to the hospital from time to time, to be under observation.

CASE 2 *Secondary syphilitic sore on the upper eyelid.*—Chas. T——, aged forty-nine, admitted Nov. 22d, 1859, suffering from an ulcer on the upper eyelid at the inner part, and involving its free border. The sore was irregular in outline and somewhat oval in shape, healing in one point and extending itself at another. It commenced at the tarsal edge, at the point which now exhibits a deep notch. He states that he has never had syphilis, but the mucous membrane of his tongue is thickened and rugose, and presents all the appearance of a syphilitic tongue. He was ordered iodide of potassium thrice a day, with Plummer's pill every other night, and to apply dilute citrine ointment to the sore.

By the 18th of December the wound was quite healed.

CASE 3. *Secondary syphilitic ulcer involving the inner angle of the eyelids.*—Sarah P——, aged twenty-three, married three years, applied at the hospital July 31st, 1860, on account of a large sore near the inner angle of the eye, which was encroaching upon the margin of both the upper and lower eyelids, close upon the caruncle.

Present state.—The ulcer is rather larger than a sixpenny piece, but irregular in outline. Its edges are inflamed and thickened. It has an unhealthy appearance, and although a portion of it has healed at its lower border, in the opposite direction it is extending itself upon the eyelids. She says she has never had syphilis; but she has lost the bridge of her nose, and is now suffering from a fetid discharge of the nostrils, which she has had for the last six years. She has great hoarseness, which came on about eighteen months ago, and has continued ever since.

Under the same treatment as in Case 2, the wound rapidly healed.

CASE 4. *Secondary syphilitic ulcer on the upper eyelid of four months' duration.*—George A—— came to the hospital, on Dec. 18th, 1860, with an oval-shaped ulcer of the upper eyelid, involving the tarsal edge of the cartilage, and extending upwards on to the integument of the lid. Around the margin of the sore there was considerable thickening, and the surface of it had a glazed appearance. He had suffered from it for four months.

On Jan. 15th, 1861, the sore was quite healed under the same plan of treatment as in the two previous cases.—*Lancet*, May 6, 1865.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

A Glass Pessary remaining in the Vagina fifteen years.—Dr. COLLINS exhibited

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to the Providence Medical Association a glass pessary which had been worn without removal for fifteen years.

It was introduced by Dr. L. L. Miller, of Providence, in June, 1850, when the patient was upwards of sixty-five years old, and was removed by Dr. C., in July, 1865, when she was upwards of eighty.

The pessary was the usual circular perforated glass disk, two inches and three quarters across. Its presence, at the time of its removal, was producing much irritation, giving rise to a copious offensive discharge, with much disturbance of the bladder. The removal was attended with much difficulty and considerable suffering, owing to the atrophy of the parts from age.

Boston Med. and Surg. Journal, Oct. 5, 1865.

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Transactions of the American Medical Association for 1865.—It is announced that the price of the forthcoming volume will be five dollars, and those members who have already paid three dollars are requested to forward the additional two dollars to the Treasurer, Dr. Caspar Wister, No. 1303 Arch Street, without delay. Members who have not yet paid, and who desire the volume for 1865, should forward five dollars to the same address forthwith to prevent disappointment, as the number of copies printed will be but slightly in excess of the number subscribed for.

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New Orleans School of Medicine.—The sixth annual course of lectures will be opened in this school on the 13th of November. The following constitute the Faculty: E. D. Fenner, M. D., Professor of Theory and Practice; D. Warren Brickell, M. D., Professor of Obstetrics and Diseases of Women and Children; Sam. Choppin, M. D., Professor of Operative and Clinical Surgery; C. Beard, M. D., Prof. of Principles of Surgery; J. L. Crawcour, M. D., Prof. of Chemistry and Legal Medicine; Howard Smith, M. D., Professor of Materia Medica and Therapeutics; A. C. Holt, M. D., Professor of Physiology.

—

The Physicians' Visiting List, Diary and Book of Engagements, for 1866.—Messrs. Lindsay & Blakiston have issued this well-known and useful volume for the forthcoming year.

Obituary Record.—Died at his residence in Middletown, Conn., suddenly, September 26, 1865, Prof. Chandler R. Gilman, of the College of Physicians and Surgeons of New York.

At a meeting of the Central Medical Association held at Middletown, Wednesday, Sept. 27, the following resolutions were adopted:—

Resolved, That by the recent sudden decease of Prof. Chandler R. Gilman, M. D., of the College of Physicians and Surgeons of New York, our profession sustains an irreparable loss, a loss all the more keenly felt by us, who during the past two years since he took up his residence among us, have learned to love and honour him no less for those eminent professional and scientific attainments for which he was so long and widely distinguished, than for the cheerful, kindly, genial qualities of mind and heart which he ever displayed amid all his physical suffering.

Resolved, That we extend to his afflicted family and his fellow physicians in New York our warmest sympathy.

Resolved, That as a testimonial of our regard and respect for our deceased friend and his bereaved family this Society attend the funeral services to be held Thursday, Sept. 28, at his late residence.

Resolved, That the Secretary be directed to furnish a copy of these resolutions to the family, and also to give them publicity.

A true copy, Geo. W. Burke, *Sec'y, Central Med. Association.*

FOREIGN INTELLIGENCE.

Precautions against Cholera.—[The Epidemiological Society, the highest authority in all that regards epidemics, have lately presented to the Privy Council of Great Britain the following memorial on the subject of cholera. The facts therein set forth should receive the earnest attention of every municipal government in this country.]

"The Epidemiological Society, ever since its foundation immediately upon the cessation of the epidemic of cholera in 1849, has had its attention in a special degree directed to the investigation of the disease as it has appeared both in this country and abroad. Many of the original members had been engaged in carrying out the inquiries insti-

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tured by the General Board of Health during that visitation, and were again employed on like duties in the epidemic of 1853-4. Other members have had extensive experience of the pestilence in the East Indies and other tropical countries; and, in almost every Session, communications illustrative of its characters have been read and discussed at the meetings of the Society.

"From the earliest intelligence of the present epidemic, when it appeared last June in Egypt, its history has been sedulously watched by a Committee, for the purpose of comparing its course with that of the former European epidemics which, after ravaging various countries on the Continent, at length reached our own shores; and, with the view of forming such practical conclusions as might guide the mind of the Profession, and of the public generally, in regard of the precautionary measures best calculated to protect the country against an invasion, and, if that should fail, to mitigate to the utmost its destructive effects among the people.

"With respect to any endeavour to exclude epidemic cholera by the system of quarantine such as was formerly practised in this country, and as it is still adopted and being carried out at the present time in all the Mediterranean seaports, the experience of the visitations in 1832, 1848, and 1853 appears to show conclusively that no reliance whatever can safely be placed upon it to keep off or avert the pestilence. Moreover, while the adoption of quarantine serves to give delusive hopes to the public mind, it generally leads to the unwise postponement of those internal measures of local improvement which afford the surest defence against the dangers of the assault. Sanitary precautions within a place are far more important than sanitary cordons without.

While discountenancing the practice of an enforced detention and segregation, for a specified number of days, of all arrivals from an infected country—irrespective of the condition of the vessels themselves and of the persons on board, whether the former be thoroughly clean and airy, or foul, close, and crowded, and whether the passengers and crew be sick or quite healthy—the Council of the Epidemiological Society are, at the same time, strongly of opinion that the interests of the public health require that an efficient sanitary supervision should be exercised in all our chief sea and river-port towns, and that the most beneficial results, not only to these places themselves but to the country generally, may be expected, on the threatened advent of an epidemic, from the timely adoption of such a precaution.

"It is to be observed that, in the successive visitations of the cholera in this country, the disease always manifested itself first on or near the sea-cost, and in some large busy port.

"In 1831 the earliest cases occurred in Sunderland during September, and Newcastle was attacked about three weeks later.

"In 1848 the disease seems to have appeared about the end of September in several places on the east coast—viz., Hull, Sunderland, Edinburgh, and the metropolis—at nearly the same time.

"The visitation of 1853 may be said to have commenced with the outbreak at Newcastle in the month of September, which proved so destructive to life and so hurtful to the commercial interests of the town.

"Besides the marked tendency in epidemic cholera to appear first on, or near to, the coast, it is also to be observed that many of our seaport towns have suffered with unusual severity in more than one of the visitations—witness Newcastle, Sunderland, and Hull, Glasgow, Liverpool, and Bristol, Plymouth, Portsmouth, and Southampton, Sheerness and London. The damp low sites of the worst parts of these towns, always in the vicinity of their harbours and docks (which are in themselves often prolific of malarious effluvia), together with the filthy and crowded dwellings to which seamen generally resort, and their reckless intemperate habits, cannot fail to aggravate other sanitary evils, and greatly to increase the predisposition of a maritime population to epidemic influences. The unfavourable state of the health, too, among the crews of many merchant ships upon their arrival in consequence of the neglect of hygienic precautions during the voyage, renders them peculiarly susceptible of a poisonous atmosphere in the port; and there is good reason to believe that on several occasions where the earliest cases of an epidemic disease have occurred among persons recently arrived, this has been due rather to the cause just mentioned than to those persons having imported the disease from abroad. In the case of river-ports becoming infected,

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the disease, from its tendency to follow the line of water communication, has often been observed to make its way thence upward into the interior of a country.

"In view of these considerations, the Council of the Society beg respectfully to state that in their opinion it is highly desirable, for the welfare of the kingdom generally, that a sanitary inspection be made of the principal seaport towns to ascertain their actual condition, more especially of their harbours, docks, shipping, dwellings for seamen, etc., and with the view of discovering what provisions or arrangements exist for the reception and treatment of cases of sickness in ships upon their arrival from abroad, in the event of the cholera making its appearance in the port.

"With regard to the health condition of the general population, the Council take leave, with great respect, to express their entire concurrence in the fitness of the timely precautionary instructions which have been already promulgated by the Privy Council; and, while they are well aware of the insufficiency in many respects of the existing laws for the prompt and effectual correction of numerous sanitary evils which seriously endanger the health of the humbler classes at all times, and especially in an epidemic season, they leave with confidence to the wisdom of the Government to determine the time when it may be necessary, by the issuing of a special order, to confer upon local authorities larger and more summary powers for the prevention of disease and the protection of the public health."—*Med. Times and Gaz.*, Sept. 30, 1865.

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Remedies for Cholera.—The foreign journals are filled with announcements of the most extraordinary infallible cures for Cholera. The *Union Médicale* suggests that it would be a saving of time to enumerate the things which have *not* been proposed as remedies in cholera.

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Transfusion of Blood.—Dr. PANUM, in his observations on Transfusion of Blood, has come to some important conclusions. Defibrination of the blood, he says, exerts no particular influence over the excretion of urea. The fibrin is quickly reproduced, and, in fact, becomes normal again in forty-eight hours. The fibrin again exercises no influence on the restoration of vital manifestations—a fact which proves that this substance is only a secondary product of tissue-formation, and not, as has been hitherto held, a body presiding over their formation. Hence, therefore, defibrinated blood must be held as infinitely superior to non-defibrinated blood when used for injections; because, by its use, the danger resulting from the injection of clots is avoided, and because defibrinated blood is more highly charged with oxygen than ordinary venous blood. Healthy human blood should always be employed; because, spite of experiments which always show that in animals the blood of an allied species may be used, there is always danger of its undergoing decomposition. The fibrinated blood may be preserved in ice, and warmed when employed in injections; but fresh blood is always preferable. When the case is urgent, there is no need for heating the blood to the temperature of the body; nor is there any danger in injecting large quantities of blood into the vessels. The surgeon should not wait until the last moment before he proceeds to the injection; because the operation is not in itself dangerous, if all due precautions be adopted in its performance.—*British Med. Journal*, Sept. 9, 1865.

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Aneurism of the Thoracic Aorta diagnosed by means of the Laryngoscope.—Dr. POTAIN gives, in *L'Union Médicale*, an interesting case of this. The patient suffered mainly from cough, aphonia, and dyspnœa, and was treated for laryngo-bronchitis. But as the treatment had no effect, M. Potain, convinced that the mischief lay in the larynx, examined the organ with the laryngoscope; and, to his surprise, found the mucous membrane in a perfectly healthy state. The cause of the aphonia, however, was at once explained by a complete paralysis of the left vocal cord. Hence, it appeared probable that the left recurrent nerve was affected in some part of its course. On further investigation, M. Potain was able to observe deep down in the trachea on its left side a reddish and projecting surface, which prevented the first division of the bronchi from being seen. No pulsation, however, was observed in it. This fact, however, with certain auscultatory signs, led to the diagnosis of aneurism, which was confirmed by autopsy. The recurrent nerve was found closely pressed between the tumour and the trachea; it was flattened and transformed into a kind of

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ribbon, and could only be recognized by its continuity with the pneumogastric nerve. All the laryngeal muscles supplied by the left recurrent were more or less atrophied —*British Med. Journal*, Sept. 9, 1865.

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Medical Evidence in Relation to State Medicine.—[Those ignorant of the circumstances of the case, are in the habit of discrediting the profession for the evidence given by them in courts of justice. The want of clearness and preciseness in the testimony of medical men usually arises not from ignorance on their part, but in the difficulty of making their statements intelligible to the uninstructed minds of the court and the public. Dr. J. A. SYMONDS has placed this subject in the proper light, in the following extract from a paper read by him before the British Medical Association at their Leamington Meeting.]

"I think we must be all agreed that medical evidence in courts of law is not what we could wish it to be, whether with reference to what is just and what is creditable to the profession, or to what is required by the interests of the public. And, first, let us consider it with respect to ourselves —our character, rights, and interests.

"Medical evidence in general—that is, with the exception of the evidence specially given by *experts*—is *mixed* evidence. It is partly common, and partly professional or scientific; for it testifies both to what might have been seen and heard by any person who happened to be present at certain transactions, and also to what could have been correctly observed only by instructed senses. Likewise, it embraces inferences from the facts observed—inferences that have the authority of the presumed scientific judgment belonging to a well-informed practitioner of medicine.

"The quasi-scientific evidence of the medical witness is not delivered in the form of a written report, carefully considered and carefully expressed; but it is given *memoriter, vivâ voce*, and for the most part in answer to questions propounded by persons to whom the subject is new, and to be heard and understood and estimated by persons who have no knowledge whatever of the subject scientifically considered.

"The evidence, though often involving nice and scientific distinctions both as to description and as to inference of cause and effect, has to be delivered by the medical witness in language as free as possible from the terminology through which much of his professional knowledge was learned, and which very terminology was invented to convey knowledge which could not be expressed with requisite precision in common language.

"Again, the evidence is often of a kind that involves minute investigations, and an exact knowledge of subjects that may not be actually required by a medical man more than once or twice in a lifetime, however experienced and eminent he may be as a practitioner. He may have got up the subject thoroughly when going through his academic curriculum, and he may be an old man before he has had to draw upon such knowledge for juridical purposes. It may have been as latent, or unemployed, or well-nigh forgotten, as the processes and foramina of the sphenoid bone or the reflections of the peritoneum; or as the natural history of some plant, in some remote corner of the globe, that furnished some dusty old drug once in favour with doctors; or as the composition of some obsolete but once fashionable pharmaceutical formula. Which of us would like to have to recount on a sudden the ingredients of pulvis contrayervæ compositus? And which of us would like to have to tell all the proofs that an infant had never lived an extra-uterine life?

"Let me endeavour to relieve the dulness of this part of my communication, by relating what on one occasion passed between a most eminent member of the legal profession and myself, not in a court of law, though at a public meeting. After a learned and highly interesting lecture on certain points of the English language, delivered at the Bristol Institution, by the Rev. J. Earle, formerly Professor of Anglo-Saxon at Oxford, a vote of thanks to the lecturer was proposed by a legal friend, a gentleman not more eminent by the high office which he holds, than distinguished by the ability and philanthropic zeal with which he has instigated various social reforms. In the course of some most valuable remarks on language, he said that those spoke best, and with most clearness and precision, who thought least of the effect which what they were saying would produce upon their hearers; and he declared that it was the want of such unconsciousness that made medical witnesses the worst of all witnesses in courts of law. And he clenched his remarks by

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alluding with playful malice (seeing that many of his medical friends were present) to a very sarcastic account of medical evidence in cases of lunacy with which a Lord Chancellor amused the House of Lords a few years ago. It happened to be my duty to second the vote of thanks; and I should have been a recreant, had I not availed myself of the opportunity of endeavouring to wipe away the aspersions cast by my learned friend on the character of medical witnesses. I ventured to say that, whatever psychological or philological truth there might be in the remark that a speaker should be free from self consciousness or thought in regard to the effect of his words, yet my learned friend had omitted to mention the chief cause of the disadvantageous figure made by medical witnesses, which was, that they had to speak of things about which their audience, including the simple-minded jurors, the quick-witted gentlemen of the bar, and even the august occupants of the bench, were profoundly ignorant; and, moreover, that such witnesses had to translate as they were speaking, to put aside the language in which their professional knowledge and ideas most naturally flowed, and to accommodate what they had to say not only to the uninstructed understanding of their hearers, but also to the vernacular language; that, in the course of this process, much might be lost both of force and accuracy; and that the process required some presence of mind, especially under cross-examination, which mental quality was not likely to be aided by a severe injunction from the bench to give a plain answer to a plain question, or by an ironical petition from counsel that the witness should for the time being disencumber himself of his superfluous learning, and condescend to the language of ordinary mortals. And, as to the allusion to the Lord Chancellor's mocking description of medical evidence, I could only say that, till I read his lordship's speech, I did not think that even a Lord Chancellor could, upon a medical subject, display so singular a lack of information After the meeting, my friend told me that what I had said was not only fair in the way of retort upon an antagonist, but also that it was strictly and literally true."—*British Med. Journ.*, Sept. 2, 1865.

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Sewers and their Evils.—[While the importance of subsoil drainage is almost universally admitted, it must be acknowledged that there are attendant evils which it is of the utmost importance to obviate. How best to get rid of the gases generated in these receptacles and to prevent the evil effects resulting from their escape, is now attracting as much attention in England as the economical question, of how most effectually to *utilize* the fertilizing properties of the contents of these sewers. The following remarks on this subject, in an editorial in the *British Medical Journal* (Sept. 9, 1865) are worthy of consideration.]

"The immense extent of our [London] present system of sewerage probably converts the sewers into one enormous cesspool. It was, of course, the decomposition of animal excrements which gave rise to the dangerous vapours issuing from the cesspools. Now, if these excrements are allowed, in consequence of the length of the sewers through which they now have to pass, to decompose, as they decomposed in the ancient cesspools, why should not the vapours and gases arising from the decomposition in the sewers produce as noxious effects as they produced when they escaped from the cesspools? We some years ago suggested this question, Whether our present system of sewage would not become one enormous cesspool; and whether some special provision ought not to be made for the escape, by high shafts, or neutralization of the products of decomposition. If it be true that the contents of our sewers in London undergo decomposition just as they underwent decomposition in the old cesspools, surely it was something akin to madness to set loose all the products of the decomposition at our very doors and under our very noses. But all this matter requires investigation; and interesting would it be, if we could get some sure information as to the ordinary health of those men who pass many hours in these sewers, and whom we occasionally see emerging from iron traps, with lantern and heavy jack-boots. What effect does the inhaling of the vapours of sewers have upon them? Perhaps some of our readers can tell us something of this; and we may add, that we wish Dr. Fuller had furnished the *Times* with some positive proof that the issue of gases from sewers had injured human constitutions and produced diseases.

"Dr. Miller, Professor of Chemistry in King's College, says truly enough, that

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sewers must be ventilated—*i. e.*, the gases must be let out of them—so long as it is necessary for men to pass through them; and he recommends the process of ventilation and disinfection proposed by Dr. Stenhouse.

"'It consists in suspending charcoal in the ventilating openings. In London, the plan has been carried out by the engineer to the Commissioners of Sewers, with the sanction of Dr. Letheby: and both these gentlemen have reported strongly in its favour. There is placed in each ventilating opening a box, within which are three or four perforated shelves, and on each of these shelves is a layer of wood charcoal; openings are made at the top and bottom of the box, to allow the free passage of the air; the whole of the air which escapes from the sewer is obliged to pass through the box and over the charcoal before it reaches the outer atmosphere. The offensive and noxious gases are speedily absorbed by the charcoal, and are oxidized within its pores, by which means they are converted into a harmless substance, destitute of odour. The method is so simple and so effectual,' says Dr. Miller, 'that it ought at once to be put in practice, while yet there is time.'

"Again, Dr. Fuller, in a second letter, objects to the process recommended by Dr. Miller, that it is unsafe and unsatisfactory; and recommends an arrangement of ventilating shafts.

"'There can be only one effectual remedy—viz., to trap all the gully-holes and close the innumerable vent-holes with which our roads are perforated, placing in their stead a few large—not necessarily lofty—shafts and openings along the main sewers, through which a thorough system of ventilation could be carried on. Over these ventilators furnaces might be erected to burn the gases, or charcoal air-filters might be placed, if it can be proved that charcoal is no less efficacious as a disinfectant than it is admitted to be as a deodorizer.'

"Dr. Letheby, on the other hand, confirms Dr. Miller's statement; and says that, in a densely populated district of London, the experiment has been carried on with success since 1860.

"'The results of it are, that the deodorizing power of the charcoal has been very complete; for not only have there been no complaints of unpleasant smells from the ventilating openings, but we have ascertained by actual observation that the odour of the sewer gases is not perceptible when they have traversed the charcoal filters. . . . The effect of these air-filters in the ventilation of the sewers is not perceptibly injurious; there is no complaint of bad air from the sewer-men, and analysis of the sewer-air shows no difference in the composition of it.'

"Dr. Herbert Barker, who has proved himself to be a high authority on the subject of disinfection, speaks of ozone as being 'Nature's grand atmospheric disinfectant.' His observations are of much interest, and the practical conclusions recommended worthy of consideration, especially in reference to this matter of the cholera. We conclude that Dr. Barker has satisfactory proofs of the fact that ozone is really absent in the district where cholera rages, etc. Of course, the full establishment of this fact is very important.

"'In the neighbourhood of cesspools, all evidence of the presence of ordinary atmospheric ozone is lost. When ozone is abundant in the air, it may be detected on the windward side of a stable, or cowshed, or manure-heap, but not on the leeward side. It may be observed abundantly immediately on the windward side of a town, and not a trace of it discovered at the same time on the leeward side. The ozone test paper in an ill-ventilated church, when full of persons, will give no reaction. I have evidence from my own experience that the diffusion of ozonized air through the apartments of persons suffering from fevers is of immense service, in that it keeps the room free of oppression, and effectually destroys the offensive odours arising from the gaseous excreta of the subject. Ozone, in its action as a deodorizer, closely resembles chlorine. It can be employed permanently by a single process with ventilation. Ozone may be prepared by Siemen's cylinder, the air driven through the cylinder being ozonized by sparks from Ruhmkorf's coil. This method can be adopted only in hospitals, as skilled hands are required for its management. Fortunately, we have a means of generating ozone from phosphorus, which is ready for use at any moment, and with little trouble. Two sticks of phosphorus, each two inches in length, made very clean by scraping, if covered with oxide, and half covered with water, will yield in an hour sufficient ozone, in a room of 3,000

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cubic feet, to be detectable by Schönbein's test in every part, and this even when there is good ventilation. The objection to the production of ozone, that there is not a sufficient bulk of water to absorb the fumes of phosphoric acid, may be obviated by using a vessel containing a larger quantity of water, and by floating the phosphorus at the proper depth upon its surface. The degree of evolution of ozone may be tested by a slip of Schönbein's paper. It is very remarkable that, during the prevalence of cholera in any district, ozone has been observed to be absent in that district; not the smallest trace has been discoverable by the test-papers."

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Infanticide in England.—Mr. Simon said, in his evidence before the Committee on the Chemists' and Druggists' Bills: "There are some country districts of England where child killing by opium is monstrous. Every one knows that in some of the manufacturing districts, where mothers are employed and children are neglected, the mortality of infants is twice or thrice what one would call the nominal rate of dying. and that a considerable share of this undue mortality is caused by dosing with preparations of opium. But it is not equally well known that in certain country districts the same amount of mortality of infants is to be observed; and when the particulars of this are inquired into, it appears that the conditions are very similar to those which operate in the manufacturing districts, and that even a greater proportion of the mortality is caused by the domestic administration of opium. I should not like you," Mr. Simon continued, "to suppose that I think much of it is intentional. I do not think that, but there is a carelessness as to the result that is hideous. On this subject the committee would find the facts given in my last annual report, and especially with reference to the marsh districts of England. The women work in gangs, and travel about the country, leading often a very reckless and rollicking life, and leaving their children a great deal to chance as they travel about. The children fare very badly, as the children do in manufacturing towns. To be kept quiet they are drugged with opium. The peasantry have a tradition that opium is useful in their ague, and have got so familiar with it that many of the adults are opium eaters. Having this local knowledge of opium, they use it to children very largely, the children dying monstrously. The mothers—namely, the agricultural gangwomen—appear often to be very reckless whether the children live or die. The children are an encumbrance to them."—*Brit. Med. Jour.*, Aug. 5, 1865.

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Illegitimate Children in England.—It appears from the Registrar-General's Report that more than 47,000 children were born out of wedlock in 1863, which is rather more than during the two preceding years. The proportion varied much in different parts of the kingdom. In London it was very low, but in all great towns some of these births escape registration. South of the latitude of London the proportion was generally below the average, but not often in other parts. In Bedfordshire 7.1 per cent. of the children were illegitimate, in Hertfordshire and Oxfordshire 7.3, in Suffolk 7.9, in Norfolk 11 3 per cent. In all the north-midland counties—Notts, Derbyshire, etc.—the proportion was high; in Shropshire it was 10.1 per cent. In North Wales it was 8.6, in the North Riding 9 2, in Westmoreland 9 2, and in Cumberland no less than 12 per cent. The Registrar-General considers it surprising that so little attention is paid to the disclosure that year after year a rate of illegitimacy far above the average prevails in certain counties.

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Cholera at Marseilles.—From the first eruption of cholera at Marseilles up to the 15th of September last, a period of two months, 1,067 persons had fallen victims to the disease.

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Cholera in England.—Cholera has made its appearance in England. At Bitterne, near the Royal Military Asylum at Netley, and about three miles from Southampton, up to Oct. 4th there had been five deaths, and six cases were under treatment. At Southampton, up to the same date, there had been two deaths, and six cases were under treatment.

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Cholera in Spain.—Cholera is making fearful ravages in Spain. At Madrid, on the 13th of Oct., five hundred and forty cases, and one hundred and seventy-five deaths occurred.

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Ophthalmia in the Belgian Army.—In the Belgian army of 50,000 men 100,000 cases of Ophthalmia occurred in the 25 years between 1814 and 1839.

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Effects of Electricity on the Body.—M. Boudin gives two instances in which the corpses of persons killed by lightning seemed to be charged with electricity like Leyden jars, for in each instance persons going to the assistance of the deceased received violent shocks.

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Typhoid Fever in Pigs.—Dr. W. Budd states that typhoid fever has destroyed 10,000 to 15,000 pigs in the southwest of England during the last eighteen months.

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Cattle Plague among Sheep.—The ravages of cattle plague, up to our latest advices, were unabated in England; indeed the area of its prevalence is still increasing. A new fact of serious import has lately been made known on the authority of the Professor of the Royal Veterinary College, which is that sheep as well as oxen may become victims of the disease.

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Preservation of the Remains of Extinct Species.—Prof. Huxley observes: "Almost all the hard parts of animals—the bones and so on—are composed chiefly of phosphate of lime and carbonate of lime. Some years ago, I had to make an inquiry into the nature of some very curious fossils sent me from the north of Scotland. Fossils are usually hard, bony structures that have become imbedded in the way I have described, and have gradually acquired the nature and solidity of the body with which they are associated; but in this case I had a series of *holes* in some pieces of rock, and nothing else. Those holes, however, had a certain definite shape about them, and when I got a skilful workman to make castings of the interior of these holes, I found that they were the impressions of the joints of a back bone and of the armour of a great reptile, twelve or more feet long. This great beast had died and got buried in the sand; the sand had gradually hardened over the bones, but remained porous. Water had trickled through it, and that water being probably charged with a superfluity of carbonic acid, had dissolved all the phosphate and carbonate of lime, and the bones themselves had thus decayed and entirely disappeared; but as the sandstone happened to have consolidated by that time, the precise shape of the bones was retained. If that sandstone had remained soft a little longer, we should have known nothing whatsoever of the existence of the reptile whose bones it had encased. How certain it is that a vast number of animals which have existed at one period on this earth have entirely perished, and left no trace whatever of their forms, may be proved to you by other considerations. There are large tracts of sandstone in various parts of the world, in which nobody has yet found anything but footsteps. Not a bone of any description, but an enormous number of traces of footsteps. There is no question about them. There is a whole valley in Connecticut covered with these footsteps, and not a single fragment of the animals which made them has yet been found. Let me mention another case, while upon that matter, which is even more surprising than those to which I have yet referred. There is a limestone formation near Oxford, at a place called Stonesfield, which has yielded the remains of certain very interesting mammalian animals, and up to this time, if I recollect rightly, there have been found seven specimens of its lower jaws, and not a bit of anything else, neither limb-bones nor skull, or any part whatever; not a fragment of the whole system! Of course it would be preposterous to imagine that the beasts had nothing else but a lower jaw! The probability is, as Dr. Buckland showed, as the result of his observations on dead dogs in the River Thames, that the lower jaw, not being secured by very firm ligaments to the bones of the head, and being a weighty affair, would easily be knocked off, or might drop away from the body as it floated in water in a state of decomposition. The jaw would thus be deposited immediately, while the rest of the body would float and drift away altogether, ultimately reaching the sea, and perhaps becoming destroyed. The jaw becomes covered up and preserved in the river silt, and thus it comes that we have such a curious circumstance as that of the lower jaws in the Stonefield slates. So that, you see, faulty as these layers of stone in the earth's crust are, defective as they necessarily are as a record, the account of contemporaneous vital phenomena presented by them is, by the necessity of the case, infinitely more defective and fragmentary."

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VOL. XXIII. DECEMBER, 1865. No. 276.

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JONES ON FUNCTIONAL NERVOUS DISORDERS, 16 PAGES.

CHOLERA.

[The approach of cholera to our shores, and the reasonable apprehension that it may invade this country before next summer, render it important that the profession should be early apprised of every new mode of treatment suggested for the epidemic, and we shall therefore endeavour to lay before our readers at the earliest period an account of such measures as may be resorted to abroad, and which have any claims to have been beneficial. The only novelty of this character which has so far come under our notice is the following article by Dr. John Chapman. The readers of the *American Journal of the Medical Sciences* have been made acquainted with Dr. C.'s method of treating diseases by controlling the circulation in different parts of the body (see No. of that journal for Jan. 1864, p. 235 *et seq.*), and also with its application to the treatment of cholera (see same journal for Oct. 1865, p. 514 *et seq.*). That the ice bag, applied to the spine, will effectually cure epidemic cholera, remains yet to be proved, but that this application exerts a powerful influence on the system we cannot entertain a doubt, and it seems to us to be well worthy of trial.]

Cholera at Southampton: Its Successful Treatment by Cold and Heat applied along the Spine. By John Chapman, M. D., M. R. C. P.

In the number of this journal published July 29, 1865, appeared an exposition of my views concerning the pathology and treatment of diarrhœa and cholera. Since that date I have been anxiously watching for opportunities to test the accuracy of those views by applying them in practice. I am now enabled to furnish reports of seven cases which have been treated by the method recommended in the paper above mentioned. Those reports, as will be seen, happily justify the anticipations which I had expressed. Patients in the state of complete collapse from cholera may now be

Published monthly by HENRY C. LEA, Philadelphia, *for One Dollar a year; also, furnished* GRATUITOUSLY *to all subscribers of the "American Journal of the Medical Sciences," who remit the Annual Subscription, Five Dollars, in advance, in which case both periodicals are sent by mail free of postage.*

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recovered with astonishing rapidity; while the subsequent congestions and fever may be controlled to an extent which will fill the physician with confidence in the power of the remedial agency at his command. That these statements are sober truths will, I believe, be held to be proved by the following reports of cases which were kindly placed in my hands for treatment either by Dr. Cheeseman or by Mr. Bencraft, Surgeon, of Southampton:—

Case 1.—Mrs. F., aged 29, eight months pregnant, living in one of the worst parts of Southampton, was first seen by me on October 4, 11.30 A. M. Has had diarrhœa about ten days. On the 2d inst., in the afternoon, felt faint, and at 7 P. M. took to her bed. Had previously begun to be purged "dreadful." Since then has been purged continually every ten minutes, or oftener. Cramps have occurred at intervals during the ten days, but on Monday night they became very bad, recurring continually; has not had five minutes' sleep at a time for them; skin cool, but not very cold. Ate an egg this morning, and, as her first act of vomiting, has just thrown it up. No headache, but very giddy; cannot stand one moment. Head decidedly cold; eyes deeply sunken; tongue cool. "Feels" (she says) "tight in the chest, and hot in myself." Very slight pain in the bowels; passes water. Pulse 108, thin, and very feeble. Applied ice at 11.45 A. M. along the whole spine, and ordered it to be removed at once if any hypogastric pain were experienced. 2.45 P. M.—Was soothed during the first forty minutes, then began to have pain in the region of the womb, but continued the ice; cramps much lessened, bowels moved but twice; has been sick twice; pulse 104. Continue the ice every other half-hour, and give beef-tea. 7.15 P. M.—Bowels moved twice; sick twice, but retained the beef-tea. Cramps have subsided, but still has pain in the hypogastric region and down the thighs; is very comfortably warm all over. To apply the ice only between the scapulæ every other half-hour as before; to remove it at once if internal pain is induced. 11.15.—Has slept several times during the evening. Hypogastric pain continues; bowels moved once; sick twice; continue as before.

5th, 8.30 A. M.—Bowels moved twice; sick four times, twice provoked by medicine prescribed before I saw the patient, and given without my knowledge. Pulse stronger; warm all over; no cramps. Still has dull pain in hypogastric and lumbar region; nothing, however, of the nature of spasms. Has retained her beef-tea, and says the ice comforts her. To reapply it along the whole back, until it melts, unless hypogastric pains increase. 5 P. M.—Is altogether better; pain lessened; no cramps; warm all over; bowels moved but once; stool decidedly fecal; has vomited a little after drinking; sleeps often, and feels rather heavy in the head.

7th, 9.30 A. M.—Used ice three times since last evening. Has been sick three times. The bowels have not been moved since yesterday morning. Still warm; no cramps; pulse 104; has eaten two eggs and some fish. To use ice only if coldness, cramps, sickness, or diarrhœa should recur. To eat anything she may fancy. 10 P. M.—Has been much better all day; neither sickness nor movement of the bowels. Is now asleep.

8th, 9 A. M.—In the middle of the night began to "wander," and got up. Does not answer questions coherently this morning. The eyes have a peculiar aspect, as if expressive of cerebral oppression. Head, chest, and extremities warm; pulse rather strong and rapid. Has been neither sick nor purged. Loud bronchial breathing, but no respiratory murmur at back of each lung; breathing rather laboured. I *thought* the breath had a diabetic smell. Still no movement of bowels. To discontinue the ice, and to apply heat between the scapulæ, and to renew the warm water in the bag every hour. 4 P. M.—The heat gave immediate relief, both to the head and chest. In a few minutes after its first application she became quite coherent, broke out in a perspiration, and felt much better. Has had a long sleep—the longest since she has been ill. Says, "I'm wonderfully better; I only want a cup of tea to make me all right now." Still neither vomiting nor purging. To renew water-bag at intervals of ninety minutes.

9th, 9 A. M.—Feels a great deal better in herself; slept two or three hours; still no sickness and no movement of the bowels; passes urine freely; skin cool; pulse 112; tongue coated. To continue water bag once every two hours, and to have a saline mixture. 4 P. M.—Still better and stronger; has slept much; tongue cleaner; no sick-

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ness; bowels still unmoved. Says she feels now that she only wants plenty of good food. On this occasion I ordered the water bag to be discontinued, and took my leave.

Comment.—As this woman is pregnant, peculiar care and patience were needed in her treatment by means of ice, otherwise a miscarriage must have been induced. Fore seeing before ice was first applied the danger of its prolonged use at one time, I ordered its removal at once if hypogastric pains were caused by it. It will be seen that my precautions were needful, but that by careful management such tolerance of the ice was ultimately established as to enable me to overcome all symptoms of her malady. The experience of the effects of the heat in restoring sanity, inducing sleep, causing perspiration, and relieving the lungs is not less striking and instructive.

Case 2.—Mrs. L., aged 29. First seen October 6, at 4 P. M. Began to have diarrhœa and vomiting at 6 A. M., stools being yellow. Cramps began at 10 A. M.; at 11 A. M. the skin became cold and discoloured. Symptoms gradually increased. At 4 P. M., when seen by myself, Mr. Bencraft, and Dr. Welsh, she exhibited the choleraic countenance in a very striking degree; eyes deeply sunken; lips blue; the whole surface of the body cold; cramps violent; rice-water purging and vomiting. Ice ordered to be applied continually. 10 P. M.—Decidedly improved. Markedly warmer; cramps and sickness much lessened. The cramps only recurred when the ice had melted and the bag had become warm.

October 7, 10 A. M.—Aspect and voice much improved; lips red; whole surface of body quite warm; pulse 100. Cramps only occurred once—when the bag had become warm. Bowels moved three times; vomited once. To continue ice as before. 8 P. M.—Body nice and warm. Pulse 94. fuller and stronger; slightly sick once; no cramps; bowels moved twice, the stools have a fecal smell. Very thirsty and weak; indisposed to take nourishment. Had some beef-tea and milk, and kept it. To apply ice till it melts, then omit it for half an hour, then repeat it in the same way.

8th, 10 30 A. M.—Has had rather a restless night, wanting sleep, and troubled with hiccough. Warm all over. Pulse 90. No vomiting; bowels moved but once; no cramps. To apply warm water bag along cervical and upper dorsal region, and to renew it every two hours. ℞.—Ferri et quinæ citratis, gr. v, ter die. 11 A. M.—Called again and found her asleep. 4 P. M.—Found she had slept about an hour—twenty minutes on three different occasions. Bowels moved once. To have tea and milk. 9 P. M.—Feels and looks much better; comfortably warm all over; pulse, as Mr. Bencraft said, "capital"—84; no vomiting or cramps throughout the day; bowels moved once. Enjoyed her tea, milk, and sago. The face is looking clearer. Now she expresses a fancy for food—viz., ham. To apply ice in lumbar region at 2 A. M. to-morrow.

9th, 11 A. M.—Ice was not applied as ordered. Has had a restless night, and between 4 and 6 A. M. had four motions, with copious amount of bile in them. Is generally warm; pulse 72 Complains of headache if she rises up. Tongue rather darkly furred on dorsum, clean at edges. Has had neither sickness nor cramp. Has taken half a cup of tea with milk; could not swallow any meat. To apply ice in lumbar region thirty minutes every four hours; but if diarrhœa returns to apply it continually. 8 P. M. (report from Mr. Bencraft).—"Mrs. L. is doing well. Pulse 72. She is not so restless or feverish: has taken some tea with milk, two good cups of beef-tea, and a fruit tart which she fancied."

Comment.—It will be observed that on the night of October 8 I ordered ice to be applied at 2 o'clock the following morning, although both vomiting and purging had ceased. I did this because as patients are most frequently attacked with cholera early in the morning, so will they be most liable, as it seems to me, to relapse at that time. There being no ice in the house on the night in question, none was applied; and, as I anticipated, diarrhœa recurred. The power of the warm water bag in inducing sleep is exemplified in this case quite as strikingly as in the previous one.

Case 3.—Ellen S., aged 15, first seen October 6, 12 P. M. Began to menstruate five months ago. Of late years has had pretty good health, but has always been delicate in the chest; eight years ago had a severe attack of diarrhœa and "slow fever." This morning, at 7.30, had a stool, and complained of pains in her chest and stomach. She continued to be purged and

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to vomit at times, and at 4 P. M. assumed the ghastly cholera aspect, and said she thought she was going to die. Since then the purging and vomiting have been almost incessant. She is very cold all over, the wrists and tongue especially so; the head alternately cold and hot. Pulse almost wholly imperceptible; cold perspirations; very bad cramps; rice-water stools. When first seen the peculiar choleraic countenance was more striking than I had seen before; it was appallingly deathlike. Had a bilious pill at 10 30, and pill of calomel and opium (gr. ¼ of the latter) at 11.30 A. M. I ordered ice to be applied to the whole spine every two and a half hours.

October 7, 9 A. M.—Is strikingly better; warm all over; tongue considerably warmer; pulse very distinct, 116; head comfortable; countenance immensely improved; no cramps at all. Has vomited but once. The feces, which are still passed under her, have a distinct fecal smell. Has had a cup of tea. Ordered to apply ice during an hour; then omit it half an hour; then resume it for the hour, and so continue. To have beef-tea as often as she can take it. 2 P. M.—Continues warm; tongue warm; no cramps. Has been sick once, at 9.30; not since. Bowels not moved since 11 A. M. Has dozed a little; no headache. Has had half a cup of beef-tea, and has kept it. 8.30 P. M.—Thinks she does not feel quite so well. Warm all over, except the feet; pulse 104; no cramps; sick once; bowels moved once; stool fecal. Has had two half-cups of beef-tea, and has kept them. Had the ice on every alternate hour. To continue the ice an hour, omit half an hour, and repeat continually in this way.

8th, 10 A. M.—Is still warm all over, especially the chest. Pulse 116. Has been sick and purged ten or twelve times during the night. The last stool was quite of the rice-water character, and contained a large round worm, which was dead. She complains of pain in the chest, and I cannot hear respiratory murmur at the lower part of the back of the lungs. Has recently slept about half an hour. To apply ice to lumbar region only, and continually. To apply warm water between scapulæ every hour. 4 P. M.—Found her asleep. Feels easier in the chest; vomiting and purging much lessened; stools have strong fecal odour. Has had more beef-tea. Continue. 10 P M.—Still better; has slept an hour; pulse 100. Mr. Bencraft, who saw her with me, is struck with the improvement in her appearance. To use the ice as before, and the warm water every two hours.

9th, 10 A. M.—Has had rather a restless night, and complains of pain in the bowels. Pulse 92; breathes comfortably; sickness at intervals. To discontinue the application of the warm water bag, and to apply ice continually in lower dorsal and lumbar region only. 4 P. M. (Mr. Bencraft's report).—"Sickness lessened; bowels moved twice. Still restless and complaining of pain in the stomach." (Mr. Bencraft has kindly promised to keep a record of the further progress of the case.)

Comment.—As this patient has a weak chest, it was necessary to watch carefully the effects of the ice, and to apply it as the symptoms suggested. Hence it was that, although she had been much troubled with both sickness and vomiting during the night of the 7th, I, next morning, restricted the ice to the lumbar region, and ordered heat to be applied between the scapulæ. It seems to me not improbable that in the preternaturally sensitive and excitable state of the bowels the dead worm which she passed caused the purging to recur. In this case, again, the warm water bag not only relieved the chest, but speedily induced sleep. I must warn physicians, however, that heat can only be thus used advantageously in cholera cases when great care is exercised, both in respect to the length of time it is applied and to the temperature of the water used, as heat, even between the scapulæ, tends to prolong the sickness.

Case 4.—Mr. B., a strong man, accustomed to work at the docks, was attacked on the morning of October 8. I saw him with Mr. Bencraft in the evening of the same day, when he complained of incessant vomiting, purging and cramps, and evinced great anxiety and distress; but though the skin was rather cool, it was not cold; and as, therefore, no marked algide symptoms were developed, the case was not thought to exhibit the characteristic symptoms of cholera in a form so decided as to be a desirable one for testing the efficacy of my method of treatment. He was, therefore, treated by medicine only.

October 9, 11 A M.—I was again requested to see the patient, the algide symptoms being now very marked. Indeed all the characteristic evidences of cholera

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present; but just before I reached the patient, Dr. Lake had applied an ice-bag along the spine. I did not see this patient again. Dr. Bullar, however, who called upon me the same day just as I was leaving Southampton, informed me that by twelve o'clock a favourable change in the patient was observable, and that he was already becoming warm; and I have since received a note from Mr. Bencraft, dated 9 P.M. the same evening in which he says: "B—— is much better, warm all over, a capital pulse, but still sick; no cramps."

Case 5.—Mrs. T., aged 42; first seen October 4, 11.30 A.M. Has been suffering from diarrhœa for several days. On the 29th ult. she suffered much from cramps. Yesterday she was very ill with diarrhœa, and this morning her bowels have been moved six or seven times. There is no fecal matter in the stools, which are wholly of the "rice-water" type. Complains of giddiness and deafness. Skin generally cool; legs and feet cold. Ice was applied at once. 3 P.M.—Feels better, and has had but one motion. 7 30 P.M.—Has felt inclined to be sick, but was not so. Had two motions, but no longer of the "rice-water" kind. Has eaten fish, and kept it. To continue the ice. 11 P.M.—Head and upper extremities very warm; lower extremities cool; pulse 80, intermittent. Has vomited once, provoked to do so by medicine prescribed before I saw her, and which I did not intend her to take. Had one motion. To apply ice in the two lower segments of the bag only.

October 5, 8.30 A.M.—Is warm all over except the feet. Pulse 80, intermittent. Has not been sick; bowels moved three times, but the stools more substantial; feels weak; is taking ground rice boiled in water, grapes, and preserve. To apply ice every four hours until the ice melts on lower third of spine only.

6th and 7th—This patient progressed satisfactorily, but during the night of the 7th no ice was used, and early the next morning she was purged three or four times.

8th, 12 A.M.—Has eaten an egg and had some milk; is fairly warm all over; no cramps, and the last stool recently passed is semi-solid. To continue ice, as last ordered, three times a day, and at 2 o'clock in the morning. ℞.—Ferri et quinæ citratis ʒ. v, ter die.

9th, 9.30 A.M.—Has had a considerable amount of sleep, but about 2 A.M., before ice was applied as ordered, the patient was violently sick, and purged several times; no cramps; skin nicely warm; pulse 80; tongue thickly coated in parts, and beefy-red in others. Has had an egg and half a pint of new milk this morning. To continue the ice along the lower half of spine, and to take a saline mixture. 4 P.M.—Patient feels much better, and is in good spirits, both she and her husband believing that she will soon be well. Having given such general directions as I thought desirable, I took my final leave.

Comment.—The experience in this case again justifies the belief that the liability to relapse is greatest shortly after midnight, and that it is especially necessary to take precautions to avert this result by applying ice immediately after midnight at all events, until the patient is fairly out of danger. The more cholera is studied the more it will be found, I believe, that the violence of the disease is exhibited in different patients in different parts of the body; in one the skin exhibits the most marked symptoms, in another the voluntary muscles, in another the stomach, in another the bowels are seemingly the chief seats of the disease, while in hot climates the head is often so suddenly and powerfully affected as to result in death from coma almost immediately after the attack. The patient whose case has just been described has been a long sufferer from deficient and painful menstruation, and from coldness of feet—facts which denote that the lower half of the nervous centres along the back have long been in a state of chronic congestion. Hence it was to be expected, as experience has proved, that the choleraic attack would chiefly expend itself on the bowels and lower half of the body. For the first time during a long period the feet of this patient have become permanently warm.

Case 6.—Mrs. B., aged 64, widow, residing in one of the very worst parts of Southampton, began to be ill at 1 A.M. on the 2d inst. Was attacked with constant sickness and purging; became cold all over, with cold sweat-drops "as big as peas," and her skin assumed a purple hue; was troubled with cramps of the extremities, the fingers becoming quite stiff. The same evening (the 2d), Dr. Cheeseman wrapped

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her in a wet sheet, which seemed to lessen somewhat the coldness of the surface and to refresh her.

She was seen by me for the first time on October 3, at 9 P. M., when Dr. Cheeseman kindly allowed me to treat her. At that time the vomiting, purging, and cramps, which had also invaded the chest and abdomen, persisted undiminished. The muscles of the extremities were hard, somewhat board-like, showing them to be in a state of tonic spasm. The head was alternately hot and cold. The upper part of the chest was decidedly cold; the precordia and epigastrium warm. Arms and legs cold, the wrists especially so. She complained much in her chest and head. No urine had been passed during the 2d and 3d inst. At 9.50 P. M. I applied ice along the whole spine. At 9.55 the hard muscles had become soft and flaccid. At 10 P. M. she fell asleep, and excepting an interval of ten or fifteen minutes, slept an hour and a half.

October 4, 1 A. M.—The upper part of the chest had become warm, and the extremities slightly warmer. Vomiting and purging lessened. 11 P. M.—Has vomited only eight times since last visit, and the bowels have been moved but four times, and not at all since 3 P. M. At 7 P. M. had become warm all over, and looks less distressed. The cramps have almost wholly ceased to trouble her. The bronchial tubes are much clogged with thick mucus, but the quantity expectorated is already lessened. Am now told for the first time that she began to menstruate this morning, although she only ceased a week ago.

5th, 5 P. M.—Complained of much pain of chest and "kidneys" during last night. Bowels have not been moved since 3 P. M. yesterday; has been sick six or seven times; ejects bile. The skin is warm all over. An ejection of beef-tea given to day has been retained. To apply ice between the scapulæ and along the lower cervical vertebræ just sufficiently long to control the sickness; the legs, which have become cooler, to be kept warm by clothes and hot-water bottle.

Although the algide symptoms of this patient were completely overcome, and the diarrhœa had wholly ceased, and although the last stools which were passed were quite of a fecal character, and of considerable consistence, she ceased to improve, and finally sank in the evening of October 7. She was an habitual drunkard, is said to have lived on drink during the week preceding her attack, obtained gin early in the morning of the 5th, 6th, and 7th, and during the whole of the 7th, until about 7 P. M., was destitute of food, or the means of getting beef-tea, fuel, and ice. On the evenings of the 5th and 6th, I supplied a small sum, directing beef-tea to be purchased, but I fear my little help was converted into gin. The nurse, who had been up several nights with her, whose apparent unremunerated devotion to her was a mystery to me, and who, no doubt, was wholly exhausted, was found by a physician lying drunk by the side of the patient. Of course, as there were no means of treatment in the house on the 7th, I avoided visiting the house until evening, when I found the patient in a dying state. I must add that before my treatment began, the patient had had opium and calomel; forty grains of the latter.

Case 7.—Mrs. D., aged 73, married. October 6, 10 A. M.—Began to be ill last night with vomiting and purging, fearful coldness, and cramps, and continued in that state until I saw her, when I ordered ice along the spine. 7 P. M.—Hands still cold; feet much warmer, also felt the warmth in the abdomen; has been purged twice and sick twice; has not had any more cramps. To continue the ice until quite warm all over.

7th, 9.30 A. M.—Has had five bags of ice since treatment began. Is warm all over; expression improved; has a little headache; has a little pain about the bowels, but no cramps; bowels moved three times since 7 P. M. yesterday, and has not been sick at all. Has had some beef-tea. To continue the ice every other hour. Food *ad libitum*.

8th, 11 A. M.—Thinks she feels a little better, but has been purged four times during the night, and is very weak; is fairly warm all over. To omit ice from upper cell of bag, continuing the application as before. To have some arrowroot. ℞.—Ferri et quinæ citratis, gr. v, ter die.

9th, 10 A. M.—I was told by her husband that she was dying; found her breathing with extreme labour; the inspirations were forced and deep; pulse at wrist feeble; aspect deathly; eyes dim. Applied ten-inch warm water bag; she revived considerably, began to breathe easier, swallowed a little brandy-and-water, was conscious, and answered questions by a laboured

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monosyllable. Gave her a teaspoonful of brandy twice; ordered it to be repeated at the end of an hour, the water-bag being continued and renewed meanwhile. She sank, however, in the course of the day.

There is a sewer-grate close to the door of the patient's house, and the husband informed me that a short time since, when the stench from it was worse than usual, she said, "That sewer will kill me." A lady friend, who had taken an interest in them for years, told me that they had often been without food, and that frequently when Mrs. D. had visited her, and was given something to eat, she stealthily divided it, in order to take the half to her husband. It is obvious that her aged frame, already suffering from inadequate nourishment, had been too much shaken by the violence of the attack to live through the reaction following it.

In the report of Case 6 it is stated that the patient began to menstruate, although she had ceased to do so only a week before. The extraordinary power of ice, when applied along the spine, in increasing the circulation, even in parts of the body which have become more or less atrophied, was very unfortunately exemplified in the case of this old woman, aged 73, who began again to menstruate on the day of her death! It is not improbable that the revival of this long dormant function exercised a baneful constitutional effect, and contributed to hasten the fatal end. Several cases have come before me in which eminent physicians, who have been consulted as to the safety of applying ice along the spine, have expressed the opinion that, at all events, it can do no harm. They will, I hope, see in this fact how mistaken that opinion is, and with what extreme care this potent agent must be used.

My week's experience at Southampton leads me to offer the following suggestions to physicians about to treat cholera patients by modifying the temperature along the spine: 1. To apply ice along the whole spine until the algide symptoms are overcome. 2. As soon as they are overcome, to restrict the ice to the lower half of the spine, and to apply it there continuously until the vomiting and purging begin to subside. 3. Then, after each bag of ice has melted, to allow intervals—increasing in length as these symptoms decrease—before applying the next bag, and gradually to shorten the time of each application. 4. To avert any threatened cerebral or pulmonary congestion by means of the double-columned water-bag. 5. And, if there be insomnia, to induce sleep also, by means of heat.

The last observation I have space for here is, perhaps, the most important of all. Algide symptoms are produced not merely by congestion of the sympathetic nervous centres, but by congestion of the lungs, which prevents the circulation and oxygenation of the blood. The presence of algide symptoms is not alone, therefore, a sure indication of the necessity of applying ice along the spine; for if those symptoms proceed from pulmonary congestion, ice will increase them, whereas heat between the scapulæ will speedily restore heat to the whole body. The danger of mistaking the cause, and therefore the remedy, of coldness of the surface, is greatest in cases of cholera when the disease had advanced to its second stage.—*Med. Times and Gaz.*, Oct. 14, 1865.

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Cholera in Europe.—Every foreign journal, whether French, Italian, or German, teems with communications concerning the cholera, and a panic may truly be said to prevail throughout the Continent. That there is ground for some alarm may be admitted from the number of deaths from this disease which have taken place at Marseilles, Toulon, and other French ports, and from the fact of numerous cases having appeared in Paris. At Toulon the deaths at one time rose as high as 68 per diem; and at Marseilles their total number from July 23 to October 1 amounted to 1679. The number is now diminishing rapidly, having gradually increased from the first week to the ninth, and then decreased as gradually. Thus, the deaths were 308 during the eighth week, 282 in the ninth, and 186 in the tenth. M. Maurin, in a communication to the Academy of Sciences, observes that premonitory diarrhœa was present in nine-tenths of the Marseilles cases, and that the symptoms did not succeed each other with the same rapidity as in former epidemics, thus allowing more time for treatment. Nearly every hospital in Paris has now received numerous cases, as many as from thirty to forty per diem being admitted into the Lariboisière, which is situated in the district where the disease is most prevalent. No accurate returns have been published,

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but it is calculated that the number of deaths in all Paris does not at present exceed twenty-five per diem. The hospital physicians seem to be modifying their ideas concerning contagion, as all the cholera patients are treated in separate wards. The Administration has also ordered the immediate removal, cleaning, and disinfecting of the bedding used by the cholera patients, as well as the washing and fumigation of the personal clothing. There is nothing new at present to record in relation to treatment, if it is not the employment as a stimulant of the *elixir de la grande Chartreuse*, procurable only at 32 fr. the litre.—*Med. Times and Gaz.*, Oct. 14, 1865.

In the same journal from which the above extract is taken, of a later date (Oct. 28), it is stated that "During the last week the cholera has been on the increase in Paris, and has exceeded the formidable number of 300 deaths per diem, reckoning private and hospital patients. While at some hospitals a diminution in the number of admissions has been observed; in others these have increased, so that the St. Antoine and La Charité now receive more than the Hôtel-Dieu; but it is in private practice that the increase is chiefly observed; while many of the patients who were already in the various hospitals for other complaints prior to the outbreak have fallen victims to it. It has been noted that of 210 deaths occurring in a certain quarter of the town 90 of the individuals occupied the *rez de chaussée* (ground-floor), 43 of this number being *concièrges* (door-porters), and the remainder grocers, fruiterers, charcoal sellers, etc., pointing with evident demonstration to the effects of an insufficient supply of air and defective ventilation. According to a communication of M. Guyot, one in three of the patients received at the Hôtel-Dieu and the Lariboisière recover, some of the cases having reached a very advanced stage on their reception. At both these hospitals a favourite tisane for the purpose of inducing reaction is the rum tea, 125 parts of rum to 875 of tea, the *elixir de la Chartreuse* being also given with success. When there is much vomiting, ipecac. in doses of from ten to thirty grains is also given, and bismuth when the diarrhœa is persistent.

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International Cholera Congress.—The French Minister of Foreign Affairs, M. Drouyn de L'Huys, has communicated an official note to the diplomatic agents of the various foreign governments, inviting a sanitary diplomatic conference on cholera to assemble in Constantinople. The object of this congress would be to investigate the primary cause of cholera, determine its principal points of departure, to study its characteristics and march, and to propose practical means for confining the disease and stifling it at its source. The British, Russian, and Spanish Governments have assented to the proposition.

The conference, it is to be hoped, will take place at an early day.

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Medical Victims to the Cholera.—M. Cacciaguerra, a medical student attached to the St. Antoine Hospital, of Paris, caught the disease whilst attending cholera patients, and died very rapidly. Several other students are lying ill, stricken by the epidemic. We learn that M. Mocquot, one of these excellent young men, has just died. The following medical practitioners have recently died at Ancona whilst attending cholera patients. We find the list in the *Imparziale*, of Florence; and hope, with the editor, that the Italian Government will not forget the widows and orphans. In fact, nothing less than great liberality towards the relicts and the children can be accepted by the medical body as a recognition of the heroism of these men. Drs. Jacobi, Persichelti, Stefanini, Bruscoli, Marchetti, Piccinini, Polloni, Corbisier, Pederzolli, and Bonetti.—*Lancet*, Oct. 28, 1865.

—

Cholera in London.—The return of the Registrar-General for the week ending Saturday Oct. 28, shows an increase in the number of cases of diarrhœa, and few returns of cases of a true choleraic type. The average number of deaths for the week (43d of the year) is, with a correction for increase of population, 1 219. The actual number was 1,377, an excess of 158. 48 deaths were from diarrhœa and 4 from cholera. The Registrar-General remarks, "There is at the present time in London a greater amount of fatal diarrhœa than has usually been found to prevail at the end of October."

—

Cholera in Russia.—The Russian Journals announce that the epidemic is now advancing northward from the southern pro-

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vinces of the empire, and that it has arrived at Berditchev in Russian Poland.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Auxiliary Faculty of Medicine in the University of Pennsylvania.—At the meeting of the Trustees of the University of Pennsylvania held on the 7th of November, the following gentlemen were elected to fill the chairs in the new faculty recently created by the munificent endowment of Prof. GEO. B. WOOD:—

1. Zoology and Comparative Anatomy, HARRISON ALLEN, M. D.
2. Botany, HORATIO C. WOOD, M. D.
3. Mineralogy and Geology, J. C. HAYDEN, M. D.
4. Hygiene, HENRY HARTSHORNE, M. D.
5. Medical Jurisprudence, including Toxicology, J. J. REESE, M. D.

—

Ohio Soldiers' Home.—The Hospital buildings near Columbus—known heretofore as "Tripler Hospital," having been some time since transferred to the State of Ohio as a home for indigent and disabled soldiers—was formally opened on the 15th of last month, with appropriate speeches, etc. Gov. Anderson and Gen. Cox, Governor Elect, addressed the assembly. We learn that the Institution goes into operation with fifteen disabled soldiers as inmates.—*Cincinnati Lancet and Observer*, Nov. 1865.

—

Southern Medical Journals.—We have received the prospectuses of three new medical journals which it is proposed to issue, commencing in January next.

The first is the *Savannah Journal of Medicine*, to be edited by Drs. J. Harris, Jas. B. Read, and J. G. Thomas.

The second, the *Richmond Journal of Medicine*, to be edited by Drs. E. S. Gaillard, and W. S. McChesney.

The third, the *Medical and Surgical Monthly*, to be edited by Dr. F. A. Ramsey, and published at Memphis, Tenn.

—

OBITUARY RECORD.—Died, at New Orleans, on the 8th of September last, J. L. RIDDLE, M. D., Prof. of Chemistry in the University of Louisiana.

FOREIGN INTELLIGENCE.

The Epidemiological Society.—The opening meeting of the Epidemiological Society for the session 1865–66, on Monday next, will be of unusual interest. An address will be delivered by the President, Dr. Milroy. A paper also will be read, by Dr. Frederick J. Brown, on Epidemic Cerebro-spinal Meningitis at Rochester.

Dr. Milroy's address, we understand, will be devoted principally to an account of the inception and progress of the present epidemic of cholera. The history of the outbreak is remarkable. Conclusions drawn from previous irruptions, and which appeared to have been firmly grounded, seem, by the mode of extension of the existing epidemic, to be at the best doubtful. An expression of opinion from our most distinguished geographical pathologist on the facts already ascertained regarding the epidemic now in progress, and on its further observation, will be of the highest value at the present time.

The title of Dr. Brown's paper conveys news of a painful description. It is the first announcement which has yet been made that the disease which prevailed so fatally about the Lower Vistula at the beginning of the year was present in England.

—

Medical Students in London.—The number this year, including those studying for the diploma in dentistry, is 1,016, an increase of 47 over last year.

—

Galactozyme.—This article is formed by the fermentation of milk by means of yeast, and is used by the inhabitants of the steppes of Russia as a sovereign cure for phthisis. The usual dose is half a tumblerful night and morning.

—

OBITUARY RECORD.—Died, in Paris, Oct. 1865, of cerebral apoplexy, Prof. J. F. MALGAIGNE, one of the most eminent, learned, and eloquent surgeons and teachers of the French capital.

—— in London, Nov. 2d, age 66, JOHN LINDLEY, M. D., F. R. S., Prof Botany at University College, London.

—— in Paris, of cholera, Dr. BREARD, aged 64 years.

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NOTICE TO SUBSCRIBERS OF THE

AMERICAN JOURNAL OF THE MEDICAL SCIENCES,

AND THE MEDICAL NEWS AND LIBRARY.

Notwithstanding the very heavy burdens imposed upon the publishing business by the existing condition of affairs, and the unexampled rise in prices, the publishers of the "AMERICAN JOURNAL OF THE MEDICAL SCIENCES" have felt a pride in carrying it through the troubles of the last five years without increasing its cost to their subscribers. While submitting to heavy sacrifices for this purpose, they have found it necessary to adopt the policy of requiring strict payment in advance. Being thus relieved from the accumulating pressure of unpaid subscriptions, they have been enabled to maintain the size and character of the "JOURNAL" without advancing its price, during a period in which the cost of its manufacture has been more than doubled. The appreciation of this course by the profession has been manifested by a larger accession of new subscribers during the year 1865 than during any previous year in the long career of the "JOURNAL;" and although a much larger edition was printed than for some time past, it has been completely exhausted, and for months they have been unable to furnish sets for the year.

It was hoped that with the return of peace a reduction in the cost of manufacture would have enabled the publisher to retain on the list for 1866 the names of subscribers who might not have remitted in advance; but the continued increase in the cost of materials and labor renders this impossible, and the practical approbation manifested by the profession of the policy pursued during the past year justifies the hope that its maintenance will be properly appreciated. For the year 1866, therefore, the "JOURNAL" will only be sent to those gentlemen who remit their subscriptions IN ADVANCE.

For nearly half a century, the "AMERICAN JOURNAL OF THE MEDICAL SCIENCES" has been published at the very moderate price of FIVE DOLLARS per annum. The "MEDICAL NEWS AND LIBRARY" is also furnished *gratis* to subscribers, and the postage on both periodicals is prepaid. For the small sum of FIVE DOLLARS, therefore, the subscriber receives, free of expense at his post-office, about fifteen hundred large octavo pages, contributed by the leading minds of the profession. For cheapness, this is believed to be almost without parallel in scientific literature.

Subscribers may rely that no exertion will be spared by the editor or publisher to maintain the high character which the "JOURNAL" has enjoyed during its long career of usefulness, and to entitle it to be considered as a National Organ of the American Medical Profession, solely devoted to the advancement of scientific medicine. The hearty and liberal support which has been extended to it is gratefully acknowledged as a stimulus to render it worthy a continuance of favor. Identified as it has been with the professional advancement of the last half century, every effort will be made to keep it, as heretofore, on a level with the most advanced condition of medical progress, and to maintain its position as a medium of intercommunication between the profession of America and Europe.

The Library Department of the "MEDICAL NEWS" for 1866 will be occupied with the continuation and completion of Dr. C. HANDFIELD JONES' "CLINICAL OBSERVATIONS ON FUNCTIONAL NERVOUS DISORDERS," which has attracted so much attention and commendation during 1865. New subscribers who desire to have this work complete, can obtain the portion which has appeared during 1865, on remittance of One Dollar.

Anticipating a continuance of the flattering increase in the subscription list, preparations will be made for an enlarged edition of the "JOURNAL" for 1866. At the same time, gentlemen who desire to secure complete sets for the year, will do well to forward their subscriptions at an early day in order to avoid possible disappointment.

☞ The safest mode of remittance is by postal money-order, drawn to the order of the undersigned. Where money-order post-offices are not accessible, remittances for the "JOURNAL" may be made at the risk of the publisher, by taking the postmaster's certificate of the inclosure and forwarding of the money.

Address, HENRY C. LEA,
Philadelphia, Pa.

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MDCCCLXVI.

VOL. XXIV.

PHILADELPHIA:
HENRY C. LEA.
1866.

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PHILADELPHIA:
COLLINS, PRINTER.

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VOL. XXIV. JANUARY, 1866. No. 277.

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JONES ON FUNCTIONAL NERVOUS DISORDERS. 16 PAGES.

CHOLERA.

Notes on the Pathology and Treatment of Cholera. By GEORGE JOHNSON, M. D., F. R. C. P., Professor of Medicine in King's College, &c. &c. &c.

There are few diseases, the treatment of which has been more influenced by pathological theories than cholera The theory which has gained almost universal acceptance is, that the worst symptoms of the disease are due to the drain of fluid from the blood. The practice which has been based upon this theory is to check the purging by opiates and astringents, and to restore to the blood its lost constituents by saline injections into the veins. What if this theory be erroneous, and the practice suggested by it injurious? That the theory and the practice are both wrong, I am persuaded; and I propose now to give the reasons for my belief.

First, then, let us inquire, *What is the relation between the symptoms of choleraic collapse and the loss of fluid by vomiting and purging?* It will, I suppose, be conceded by all who are prepared to argue this question, that if the symptoms of collapse are occasioned by a drain of fluid from the blood, there must, as a rule, be a direct relation between the degree of collapse and the amount of liquid which escapes from the blood. Now, so far is this from being the case, that there are few writers of any note or authority upon the subject of cholera who do not either assert distinctly, or record facts from which the inference plainly follows, that not only is there no direct relation between the loss of liquid by vomiting and purging and the degree of collapse; but that these conditions often bear an inverse ratio to each other. In confirmation of this statement, I purpose now to quote some of the best known authors on the subject of cholera.

Dr. Edmund Parkes says: "My cases bear out the observations of Scott, Jameson, Orton, Kennedy, Copland, and, in fact, al-

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most all the English writers of reputation, that there is absolutely no ratio between these two classes of symptoms" (*i. e.*, between the purging and vomiting and the symptoms of collapse) "or that they appear even to observe an inverse ratio to each other. Thus, at a period of the case when the algide symptoms were most fully developed—viz., in the last five hours—the purging ceased; in the cases where the algide symptoms were prominent throughout, and which cases were consequently the most malignant and the most rapidly fatal, the passage of fluid from the intestines was oftentimes trivial in degree and shortened in the period of its occurrence. In cases in which the vomiting and purging were excessive, the algide symptoms often came on slowly, and were less marked and deadly." (*Researches into the Pathology and Treatment of the Asiatic or Algide Cholera.*)

Dr. Parkes, then, in illustration of these remarks, cites some cases in which the frequency of the vomiting and purging was quite out of proportion to the severity of the other symptoms. He afterwards states that "it may be objected to observations of this kind, that the number of stools is, after all, no certain indication of the amount of fluid passed. This objection would be of weight in cases where the stools were not very different in number; but in some of these cases cited above, we have two or four stools attended by more rapid death than twenty-five or twenty stools; and yet, in the first case, it would be impossible not to suppose the quantity of the fluid passed to be much below that of the second case." He adds, "it may be confidently asserted that there is no one who has seen much of cholera who does not know that, exclusive of the mildest forms of the disease, a case with little vomiting and purging is more malignant and more rapidly fatal than one in which these are prominent symptoms."

With reference to the varieties in the general symptoms of cholera, Scott makes the following statement: "A frequent variety, the worst of all, is that which is noted for the very slight commotion in the system; in which there is no vomiting, hardly any purging—perhaps only one or two loose stools—no perceptible spasm, no pain of any kind; a mortal coldness with arrest of the circulation comes on from the beginning, and the patient dies without a struggle. This has frequently manifested itself as the prevailing type, and almost all die who are attacked by it." (*Report on the Epidemic Cholera.*)

The testimony of Bell is to the same effect. He says: "It has been found that the more violent the prominent symptoms are, the more likely is a cure to be effected; and that when the disease is attended with rapid collapse, little or no vomiting and purging, and no spasm, the prognosis is very unfavourable." (*Treatise on Cholera Asphyxia, or Epidemic Cholera.*)

Orton, in several passages of his essay, alludes to the fact that, in the worst forms of the disease, vomiting and purging are slight or quickly cease, or even do not occur at all. (*An Essay on the Epidemic Cholera of India.*)

Twining gives cases which illustrate the same general principle. Thus, he reports (*Clinical Illustrations of the More Important Diseases of Bengal*, p. 10) the case of a gentleman who died nine hours after the commencement of urgent symptoms, in whom there were occasional slight efforts to vomit at intervals of half an hour, and he had only four stools from the commencement to the termination of the attack. And, in another part of his work (p 37), he says, "We often see patients vomiting violently for hours, and others purged profusely for several days without cholera (*i. e.*, collapse) coming on."

The authors above cited have all observed the disease in India; but the testimony of those who have witnessed it in Europe is in strict accordance with that of the Indian authorities. Thus, Magendie, describing cholera as he saw it in Paris in 1832, makes the following statement: "Some patients have no evacuations, inasmuch as one is obliged to excite them; for the evacuations, though associated with the disease, are not one of the most serious symptoms; and those patients who have had copious evacuations have been more easily treated than those who have had none. This is a remark which has been made by many Physicians." (*Lecons sur le Cholera Morbus.*)

Mr. French states, amongst other reasons for believing that the intestinal discharges are salutary, that while "cholera, in its most intense form, produces death instantly without discharges, all those who recover from its attack experience the peculiar discharges more or less." And, again, in favour of the same view, he says, is "the ultimate recovery of persons who have con-

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tinued in a state of collapse for a considerable length of time, often extending to a period of three days, and who, in all instances, sustained enormous discharges." (*The Nature of Cholera Investigated.*)

Dr. Gull, in his *Report on the Morbid Anatomy and Pathology of Cholera*, published by the Royal College of Physicians in 1853, cites the evidence of several practitioners to the effect that, in many cases, "the evacuations appeared to be wholly insufficient to account for the fatal collapse." And one case which came under Dr. Gull's observation, affords a striking illustration of the same principle. "On a *post-mortem* examination, the large intestines contained healthy feces; whilst in the upper two-thirds of the small intestine, the mucous membrane presented the ordinary changes induced by the cholera process, and the rice water effusion was abundant." Dr. Gull adduces this case to show that "*cholera sicca*, in a strict sense, does not occur; for although the disease may be fatal without any evacuation, the intestines after death, in such cases, have been found to contain the rice-water fluid." It can scarcely be doubted, however, that when, as in this case, the purging has been insufficient to remove the feculent contents of the large intestine, the loss of fluid must have been out of all proportion less than in most cases in which recovery takes place. And Dr. Gull in another part of his Report (p. 211), admits that "the intensity of the symptoms is often in no inconsiderable degree greater than can be accounted for by the amount of the effusion."

With respect, then, to the question whether there is any direct relation between the loss of fluid by purging and the symptoms of collapse, we have a large amount of concurrent testimony to the effect that no such relationship exists.

Even admitting that there were a direct and constant relationship between the loss of fluid and the degree of collapse, further evidence would still be required to prove that they stand to each other in the relation of cause and effect. It might be that they are only the effect of one common cause, which while, on the one hand, it gives rise to collapse, on the other excites vomiting and purging. How far this may be the case, we shall have to consider hereafter. In the meantime, it must, I think, be conceded, that the evidence of there being an inverse rather than a direct ratio between the degree of collapse and the loss of liquid by vomiting and purging, is fatal to the hypothesis so generally received and acted upon, that choleraic collapse is caused by the drain of liquid from the blood.

We will next go on to inquire whether the symptoms of collapse are such as an excessive drain of liquid from the blood might be supposed to produce.

With reference to the hypothesis that the characteristic symptoms of choleraic collapse are caused by the loss of the watery constituents of the blood, we have next to inquire, *whether the symptoms of collapse are such as an excessive drain of fluid from the blood would be likely to produce.*

Now, what is the condition of a patient who has suffered a profuse drain from the blood, whether of water alone or all the blood-constituents? What is the effect of a copious hemorrhage, of a profuse and long continued leucorrhœa, of prolonged lactation, of excessive purging, whether the result of disease or of medicine? Is not the condition of a patient who has been exhausted by such means, of the nature of syncope? There are a small and frequent pulse, a pallid skin, dimness of sight, and *tinnitus aurium:* these symptoms being much increased by the erect posture; and, in extreme cases, the head cannot be raised from the pillow, even for a moment, without the occurrence of syncope. For a patient in this condition to walk or stand, or even to sit up, is simply impossible. Now, there is something in the collapse of cholera which is essentially different from the mere exhaustion which leads to syncope. In fact, almost the only symptom which is common to the two conditions is the extreme smallness and feebleness of the pulse.

One great distinction consists in the remarkable blueness, coldness, and other symptoms indicating that during the collapse of cholera the aeration of the blood is greatly interfered with; while no such symptoms of obstructed respiration occur in ordinary cases of exhaustion from excessive purging. Another great and obvious distinction is this: that whereas a patient exhausted by a drain of fluid from the blood, and therefore verging on syncope, is unable to assume the erect posture without losing at once his pulse and his consciousness, a patient in the collapse of cholera, whose skin is blue and icy cold and whose pulse is imperceptible or extremely small and feeble, is often able to stand

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up without becoming faint, and even to walk a distance which must require a considerable amount of muscular exertion.

This is a fact alluded to by several authors; and no one can have watched cases of the disease without having observed the surprising amount of muscular exertion of which even a cold and pulseless patient is capable. It is scarcely necessary to quote authorities for this statement: but I will refer to one in illustration of what has been advanced.

Scott says (*Report on the Epidemic Cholera*, p. 24): "Instances are not wanted of patients being able to walk, and to perform many of their usual avocations, even after the circulation has been so much arrested that the pulse has not been discernible at the wrist." The same author states, in another place, when speaking of the effects of bloodletting (p. 58), "It is remarkable that, in a disease like cholera, syncope should be so rare a symptom." And, again, (p. 28), "During the progress of this disorder, when the nervous energy seems to be almost annihilated, and the functions of the heart and arteries to be abolished, this symptom (syncope) is yet very rarely observed."

Another remarkable difference between the collapse of cholera and the exhaustion caused by an excessive drain of liquid from the blood, consists in the rapidity with which a patient often recovers from the former condition. As an instance of this, I may quote the following from Dr. Gull's *Report* (p. 135): "I have seen" (says Mr. Grainger) "a man stand at his door on Wednesday, who on Monday was in perfect collapse." And this observation, as Dr. Gull observes, is in accordance with the experience of others.

With reference to this remarkable feature of cholera, Twining makes the following statements (*Clinical Illustrations of the more Important Diseases of Bengal*, p. 20): "In cases not fatal, the progress of recovery often almost as rapid as the accession of cholera; and if the disease be treated at the very onset, it is not uncommon to see a person well on the third day, after an attack of the worst symptoms, which had commenced with coldness and collapse, and who, if left without remedies, would probably have died in six or eight hours. *In these instances recovery seems almost as sudden and complete as in cases of patients who are resuscitated after suspension of animation from submersion in water.*" It is scarcely necessary to insist upon the fact, that no such instances of rapid recovery from extreme prostration consequent on a drain of fluids from the blood are ever known to occur; nor, from the nature of things, is it possible that a great loss of blood-constituents can be restored with such extreme rapidity.

The natural and obvious inference from these facts appears to be, that there is an essential difference between the condition of a patient who has been exhausted by a profuse drain from the blood, and that of one in collapse with cholera. It is, therefore, incumbent on those who maintain that choleraic collapse is due to the loss of fluid by the intestinal canal, to explain, if they can, the remarkable differences which have been here pointed out between the symptoms of collapse and those of ordinary syncope.

Our next inquiry shall be, whether the effect of various modes of treatment in the collapse of cholera affords any support to the theory that a drain of fluid from the blood is the essential or the chief cause of that condition.—*Brit. Med. Journ.*, May 6 and 27, 1865.

(*To be continued.*)

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Ice-Bags in Cholera.—In an editorial article on this subject in a late number of the *Medical Times and Gazette* (Nov. 25, 1865) we find the following remarks, which seem to us to have much weight. Dr. Chapman's theory as to the action of his ice and hot-water bags, has always appeared to us as questionable, and yet these cold and hot applications are doubtless very potent measures, and must exert an influence in some morbid affections. Experience may show that they do so in cholera:—

"We understand that a majority of the medical men at Southampton express themselves favourably as regards the ice treatment in cholera. No doubt we shall soon hear more particulars. It must be remembered that ice is not the first remedy which has appeared to do good in this hopeless malady. There were the saline injections, for example, based upon "incontrovertible physiological principles, evident to the most uninitiated," etc. etc.; there was the small dose of calomel, and a host of others; and what we desire is, a statement of the excess of benefit derived from the ice over that from careful treatment without drugs (which

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we pray for, should we have cholera ourselves), and over other systems of medication. When we say careful treatment, we mean the giving of nourishment and the comforting the patient in those small details which can only be attended to by a kind and skilful medical attendant, who does not conceive himself bound to *try* something for the sake of appearances.

Whilst then, we look out for, and shall gratefully record any facts, we may employ ourselves in criticizing the theory of the ice-bag, since it has made its way into the newspapers, and has been even honoured with one of those odd, quasi-Greek names (*neuropathy*) which seem so attractive to the popular ear.

To begin, then. We want more information, derived from comparative trial, as to the effects of heat or cold to the spine, and heat or cold applied to the skin of the trunk in various places. Patients with bronchitis, for example, have been treated from time immemorial by the external application of heat. Every one uses linseed and other poultices to the front of the chest, the sides, and the back, all together or in turn. They are used of all temperatures—hot, to redden the skin; cool, to soothe and comfort. The effect of such applications is known to be beneficial; they generally cause a universal glow on the skin and gentle perspiration. Are we to believe that a poultice applied over the spine between the scapulæ would behave as an old-fashioned poultice, or that it would excite the sympathetic and make it cut off part of the supply of blood to the irritated bronchial membrane? If the latter, what collateral signs are there? Would a warm poultice to the back, for example, diminish the circulation in any part of the skin? which it ought to do, if Dr. Chapman's hypothesis be correct. Can Dr. Chapman show that a hot-water bag to the centre of the back between the scapulæ relieves pulmonary congestion, more or less, or otherwise, than a hot-water bag applied to the ribs, or sternum, which we know to do good?

Dr. Chapman says he has cured constipation by applying heat to the spine. Many practitioners have cured it by applying cold. A cold sitz-bath is a favourite and valuable remedy. Dr. Chapman cures hemorrhage by applying heat to the spine, to excite the sympathetic and contract the arteries. There is the old remedy of cold to the nape of the neck for checking nose-bleeding; and we want to know which is right, because "upon strict physiological principles" both cannot be.

It may seem impertinent, but we really desiderate some proof that an ice-bag does really effect the temperature of the spinal marrow; but we suppose Dr. Chapman is prepared with this.

Now, let us turn to sea-sickness. If we understand Dr. Chapman aright, this is a direct effect of an excitation of the spinal cord. This delicate part is shaken and irritated by the horrid up and downs of the vessel, and so becomes congested or loaded with blood; being full of blood, it generates more nerve-force; this nerve-force contracts the arteries of the brain and of the stomach; by some (hitherto unknown) law, much mucus is secreted when the supply of blood to a mucous membrane is diminished; and the muscular fibres of the stomach and bowels become restless and irritable under want of nourishment, and so execute those peristaltic movements whose effects are known as vomiting and diarrhœa.

We certainly find it not easy to treat this kind of pathological reasoning gravely. Certainly the end of this chain of slap-dash deductions seems a great way from the beginning, and we have much doubt as to the safety of a good many of the links. For example, sea-sickness is but one of half-a-dozen similar kinds of sickness which depend, without doubt, on some similar condition of the nervous system; and what is true of one is probably true of all. There is sea-sickness, sickness from being whirled or spun round, sickness from looking suddenly over a precipice, sickness from undulating movement of visible objects so as to produce a subjective sense of unsteadiness, sickness from wearing spectacles which dazzle, sickness at the sight of blood, sickness from tobacco. We suppose that Dr. Chapman can prove that in sea-sickness (as in diarrhœa, etc. etc) the spinal cord is really hyperæmic—for this, the foundation stone of his system, cannot have been left as a probability merely; but what proof is there of congestion in the spinal cord in any of the other analogous forms of sickness? If the gentlest undulations of a ship make the spinal cord hyperæmic, what does a hard trotting horse do? All these things strike one as unfavourable to the theory. So do the ordinary *juvantia* and *lædentia*. But let us wait for the facts. Do ice-bags cure sea-sickness? If so, we have some-

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thing valuable in hand, and a second theory will follow.

As for the ice-bag in cholera, as we have before said, we await the facts in all humility. If Dr. Chapman succeeds in proving that they contribute anyhow to the safety or comfort of the patients, he will not miss his reward. But we must confess to strange misgivings as to his theory. That assumes such a surexcitation of the sympathetic as to constrict every artery in the body, but especially those of the intestines. Now, here is a point on which surely pathological anatomists have evidence to give. If we can't inspect the spinal cord during sea-sickness, unluckily, opportunities enough are found of inspecting the mucous membrane of the bowels after death by cholera. And what is found there? What are the records of the post-mortem inspections made in '31, '49, and '54? Was the spinal cord congested? Was the mucous membrane of the alimentary canal deprived of vascularity! Was there ground for the theory of secretion of mucus as a consequence of diminished supply of blood? Who does not recollect in the worst cases of cholera in '49 and '54 not mere rice-water stools, but *red-currant-jelly stools;* florid blood poured out from the mucous membrane and mixed with the rice-water? Do we hear nothing of intense injection and ecchymosis? And this from a membrane whose arteries are closed? A good theory is like a bit of India-rubber, and will fit almost everything; but we can't see how by any stretching Dr. Chapman's ice theory can fit the facts as to the state of mucous membrane after death by cholera.

Here we must stop. We do not in the least doubt but that the ice and hot-water bags will be found available as remedies in several conditions, more particularly where least expected. But we must confess that the system of *neuropathy*, as a whole, simply ignores all the physiology and pathology and animal chemistry of the last thirty years. It ignores all we know about the intrinsic powers of growth inherent in the cell or germinal element of tissues, and about the influence of the composition of the blood. It takes us back to that dreamy time, from 1680 to 1840—up to the end of the John Hunter era—when the state of the bloodvessels was the beginning and end of medical hypothesis, and when patients were bled and physicked in accordance with the "latest physiological principles," no matter whether these hung upon Cullen's "spasm" of the vessels, or John Hunter's "increased action" of them.

Progress of Cholera.—In an editorial in the *Lancet* of December 2d, it is stated that, "with the exception of Naples and the governments of Kiev and Podolia in European Russia, the epidemic is declining, is stationary, or has ceased in all the centres of infection north of the Mediterranean. If it were not for the extension of the malady in Russia, the singularly slight impact of the epidemic on our own shores hitherto, so different from the antecedent outbreaks of former epidemics, might almost justify a hope that England would escape with but a slight visitation. Gradually, however, the disease is advancing towards, nay, indeed, has entered, the old track by which central and northern Europe, and subsequently our own country, were attacked in 1831–32 and 1847–48. We may not, then, hug ourselves in the pleasant belief that the ravages of the pestilence will not once more extend to us."

He would be a bold prophet who should venture to predict that the cholera *would* or would *not* visit this country next summer; but it would be the most culpable negligence not to adopt every precautionary measure which experience has shown to be calculated to prevent its visitation or to moderate its ravages, should it unhappily invade our shores. We shall in our next indicate some of those measures.

HOSPITAL NOTES AND GLEANINGS.

Remarkable Repair of Extensive Injuries.—On the 29th of July last we saw a boy, fourteen years old, admitted into St. Bartholomew's Hospital, whose condition seemed to hold out scarcely a hope of recovery. He had got entangled in some cord-making machinery, and had been rolled by a revolving metal cylinder much as linen is pressed in a mangle. The ecchymosis was so extensive that his face was enormously swollen and of a dark purple colour, the conjunctivæ intensely chemosed, and the features unrecognizable. The aspect resembled that of a very bad case of scurvy, or perhaps still more, as Mr. Paget remarked, that condition of dark tumefaction which sometimes precedes the

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eruption in malignant variola. The boy had sustained, besides, the following injuries: oblique fracture of the left femur; separation of the epiphysis of the right femur; wound near the left elbow-joint, possibly entering it; dislocation of the right humerus into the axilla. There was concussion of the brain, and he lay for many hours in a state of complete collapse. A sixth of a grain of morphia was injected subcutaneously, and this was continued daily. On the 26th of August we found him looking cheerful and completely altered in appearance; there was scarcely any ecchymosis remaining; the wound about the elbow-joint had healed; the left femur was encased in a gypsum splint, and the right had united. When we saw him last, on Sept. 27th, the injuries described were repaired, but he was suffering from suppuration in the neighbourhood of the right shoulder-joint. Mr. Eccles, the house-surgeon, who had charge of him, tells us that after the reduction of the dislocation, which was easily effected, inflammation took place, and a large abscess formed, which was opened over the pectoral muscle and in the outer wall of the axilla. It is probable that extensive extravasation of blood took place into the joint at the time of the accident. He still complained of stiffness about the back.

The case furnishes a remarkable instance of the elasticity of life at this particular age. A few years later, and the lad's hardened tissues would have been crushed probably beyond repair.—*Lancet*, Oct. 28, 1865.

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Laceration of the Jejunum from a Fall upon the Pavement.—The following case, for the particulars of which we are indebted to Mr. Mason, late house-surgeon to University College Hospital, was remarkable both for the simple nature of the accident—a fall upon the pavement—which caused the injury, and for the length of time which elapsed before any very serious symptoms ensued.

At eight o'clock on an evening in July last a man about thirty years of age tripped up and fell forward upon the curbstone. Feeling no ill effects, he continued his walk, and reached home. During the night he experienced pain in the bowels and purging, and at nine o'clock on the following morning he asked the porter at the hospital for a dose of diarrhœa mixture. This was given to him, and he went away. At one P. M. he again appeared, being then in a state of collapse from intense peritonitis. He was admitted, and died eight hours afterwards.

The autopsy showed a small lacerated opening in the upper part of the jejunum. Two inches above it, in the last portion of the duodenum, a blood-clot the size of a small walnut lay under the mucous membrane, and the surrounding tissues were somewhat stained with blood. The peritoneal cavity contained a considerable amount of fluid, together with a number of gooseberry-skins and peas. The surface of the intestines was covered with soapy-looking lymph. There was no appearance of any ulceration of the intestine. The abdominal integuments showed no injury.—*Ibid.*

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

University of Pennsylvania—Auxiliary Faculty of Medicine.—The first course of lectures, it is announced, will commence on Monday, April 2d, and continue until the last of June. The lectures will be free to all the students of the University; to others the fee for the full course will be $35; for either ticket alone $10.

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New Hampshire Medical Institution—Dartmouth College.—At the annual commencement of this Institution, held on the 1st of November last, the degree of M. D. was conferred on 24 candidates.

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Berkshire Medical College.—At the commencement of this school, held on the 8th of November last, the degree of M. D. was conferred on 18 candidates.

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University of Michigan.—Prof. S. G. Armor writes us that "The class attending the present course of lectures in the Medical Department of the University of Michigan numbers 450—a fraction over. This is the largest class that has been assembled west of the mountains.

"The University of Michigan, the oldest State University in the country, was opened as a college in 1841. The Department of Medicine and Surgery was opened in 1850, and is now among the largest medical schools in the country. It employs ten

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professors and instructors, and has a six months' term"

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American Pharmaceutical Association.—This very active and useful Association held its annual meeting in Boston in September last. It is stated in the *American Journal of Pharmacy* that "the spirit with which the sessions were animated, the full attendance, and the large number of new members, all rendered it one of the most successful gatherings that have taken place." From the abstract of the proceedings given in the journal just referred to, it is manifest that a large amount of important business was transacted. This association has done much to advance the science of Pharmacy in this country and to elevate the standing of its cultivators.

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New Orleans Medical Journal.—Dr. BENNET DOWLER has issued proposals for the publication of a journal under this name. It is to be a bi-monthly of 104 pages, at $5 a year, in advance, and to be issued early in 1866, if sufficiently patronized. Dr. D. is a hard worker and a zealous student, and his efforts to advance our science deserve encouragement.

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Desormeaux's Monograph on the Endoscope.—We are pleased to announce that Drs. JOHN C. OCTERLONY and COLEMAN ROGERS, of Louisville, Ky., have in preparation a translation of this interesting work.

FOREIGN INTELLIGENCE.

Compression in Aneurism.—A discussion on this subject lately took place at the Parisian Surgical Society, *apropos* of a successful case of M. Legouest. A man, in 1863, with popliteal aneurism, was subjected to digital pressure without success A second time, at Lisle, he was subjected for sixty hours to the same treatment, and also unsuccessfully. The patient, wearied, remained for two years without further treatment; but as the pain then increased, he, in July last, entered Val-de-Grâce under M. Legouest He then had a popliteal aneurism of the size of an egg, with thick and regular walls. M. Legouest at once employed M. Broca's compressor from July 24th to August 11th, when it was removed on account of the intolerable pain and other mischief produced. The tumour seemed increased in size, hardness, and pulsation. M. Legouest then resorted to digital compression, continued, and as perfect as possible. From fifteen to twenty assistants relieved each other, commencing at 8. A. M. on the 11th and continuing steadily at work up to 9 A. M. of the 12th. The pulsation of the tumour ceased, and has not returned, and there now only remains a hard tumour. M. Legouest said, that compression had been abandoned by surgeons, because it was so simple and afforded no gratification to the vanity of the operator; a remark which was loudly protested against. M. Marjolin said, that he had never noticed any of the great pain attending digital compression alluded to by M Legouest. M. Desormeaux said that he should like to see the other side of the medal, the unsuccessful cases. He had himself had a case of popliteal aneurism, in which digital pressure had produced gangrene and death. M. Velpeau thought that digital compression was neither difficult nor dangerous. It was not necessary to keep up the pressure continuously for twenty-four, thirty-six, or forty-eight hours; it might be left off for an hour or two every five hours. Nor was there any necessity for employing a company or battalion of assistants, as M. Legouest had done. He had cured several cases in this way, varying the mode of compression. He had no doubt that in due time we should employ pressure only in the cure of aneurism, and never resort to the ligature, which is always dangerous.—*Brit. Med Journ.*, Sept. 23, 1865.

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Diabetes.—Dr. BUTTURA relates to the Academy of Sciences (through M. Bernard), a case of diabetes cured by the application of a seton to the neck. A mason, 38 years of age, had long suffered from the disease; he was very wasted and feeble, his thirst was extreme, and his urine abundant. The different usual methods of cure were tried in vain; and at the end of eight months trial of them, a large seton was put in his neck. When suppuration was established, the sugar in the urine gradually diminished. At the end of six months, not a trace of sugar could be found. The man returned to his work; and now for a year has remained perfectly well.—*Ibid.*

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Death from Chloroform.—The *Liverpool Mercury* gives the inquest held on a child

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aged about two years, which had died from chloroform administered for the removal of a finger. About thirty drops were placed on lint over the child's mouth for about two minutes. The child died in about five minutes after the commencement of the inhalation. The jury's verdict was: Died from the effects of chloroform by misadventure. No blame was attached to either Dr Sinclair or Mr. Prytherch.—*Brit. Med. Journ.*, June 24, 1865.

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Endermic Poisoning by Belladonna.—The application of belladonna to the breasts for the relief of painful distension of the organs, especially after sudden weaning, is often resorted to and with advantage. Where there is an abrasion of the skin, however, this practice, it should be known, is not devoid of danger. A case of poisoning under such circumstances is recorded in a recent number of the *Lancet*, Nov. 11, 1865.

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Vaccine Matter from the Cow.—It will be recollected that at the Medical Congress at Lyons last year, Professor Palasciano, of Naples, gave an interesting account of the practice of vaccinating from the cow followed at Naples for the last sixty years. At that time a kind of panic prevailed in France respecting transmission of syphilis through the medium of vaccine lymph, and the Neapolitan plan was warmly welcomed as offering an effectual preventive to such a disaster. Cows were accordingly vaccinated in Lyon and Paris; but as we have heard nothing whatever of late of the plan being pursued we suppose that either practical difficulties or a suspicion that great exaggeration had prevailed concerning the evils attendant upon the ordinary mode of vaccination have prevented its being continued. However this may be, the Prussian Government, having had its attention drawn to the matter, has caused a report to be prepared, of which Dr. Müller gives an account in a recent number of the *Berlin Med. Wochenschrift*. It seems that a Dr. Galbiati commenced the practice of vaccinating directly from the cow at Naples sixty years ago, and that it has been regularly continued from that time by Signors Feola and Negri. From the years 1849 to 1859. the cows employed were the property of the King, who had his own family vaccinated in this manner; but since then Negri has conducted the vaccinations as a private speculation, charging 5 francs for bringing the cow and vaccinating the child at its parents' residence. The generation of the vaccine pustules does not seem to injure the cow, but the udders, upon which are often from 80 to 100 pustules, are so much damaged that the animal is usually slaughtered, the price obtained for it going towards covering the expenses. It is remarkable, however, that this mode of vaccination does not seem to have become, even after so long a period, very popular in Naples, although warmly supported by influential persons, the ordinary vaccinations being performed just as in other countries, the employment of Negri's cows being confined to the richer persons and the revaccination of a portion of the army.

Some of the Neapolitan lymph having been forwarded to Berlin, Dr. Müller made some comparative experiments with it and with lymph derived from other sources, and found the results identical. He also vaccinated some cows and calves with the lymph, generally producing true vaccine pustules, which attained their full development by the sixth or seventh day. They were, however, far from containing the quantity of lymph stated by Negri to be produced, this not running out after the separation of the scab, as is usually the case in the human pustule, so that the glass tubes were filled only with difficulty. This lymph produced true pustules in some children, while in others it did not succeed. The milk of the cows submitted to the process diminished in quantity, and the animals became emaciated. Alarmed also, they offered much resistance to both the inoculation and abstraction of the lymph; so that it is evident that Negri's cows must furnish a larger supply of lymph, and belong to a quieter race, or he must be much more expert in their management, to enable him to take them to the patients' houses for the small sum of five francs. However, the trials made establish the possibility of vaccinating direct from the cow in all cases, but they also show that it is neither an easy or cheap process. After all, is there any great advantage in substituting this mode of proceeding for that from arm-to-arm vaccination? and is there not at least as much danger of transplanting diseases of the cow as of conveying syphilitic poison, especially as the best and most robust cows would

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naturally not be those employed for this purpose?—*Med. Times and Gaz.*, Oct. 28, 1865.

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Trichinæ.—Prof. VIRCHOW, in his *Essay on Trichinæ*, says, that the most careful cooking is required to destroy the trichinæ in fresh meat; that salt has a very destructive effect on the parasites; and that ten days of salting will effectually destroy them Hams, sausages, etc., should not be eaten fresh; but should be kept a long time before being used.—*Brit. Med. Journ.*, July 22, 1865.

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Ventilation of Hospitals.—DR. GALLARD of La Pitié, who has lately paid much attention to the ventilation of hospitals, has arrived at the conclusion that *natural* is far superior to *artificial* ventilation. At Hôpital Beaujon, he says, has been in operation since 1856 Van Hecke's system of ventilation in the female surgical pavilion of that hospital; and yet statistics show that the mortality has, if anything, increased. In 1851, there was one death to 17.16 patients treated; in 1852, one to 16.26; in 1853, one to 14.48; in 1854, one to 13.81; in 1855, one to 16.23; in 1856, one to 14.25; in 1857, one to 14.93; in 1858, one to 12.85; in 1859, one to 17.14; in 1860, one to 12; in 1861, one to 11.60; in 1862, one to 12.30. At Hôpital Necker, where the same apparatus is in operation, the mortality has remained precisely as it previously was—viz., one in eight or nine patients. Then, again, we find still more striking results if we compare the mortality of La Pitié, where there is no artificial ventilation, with that of Lariboisière, where the most expensive system prevails. Lariboisière nominally contains 606 beds, but its average number is 634. La Pitié contains 620. Lariboisière is placed on a height, and stands in an open space. La Pitié is placed low; has muddy waters, tanneries, etc., around it; its superficial area is 21.7 *mètres*. Lariboisière has 51.8 *mètres*; its beds have each 52 to 53 cubic *mètres*, whilst those of La Pitié have from 25 to 49 only. These and other circumstances place La Pitié in a hygienic position greatly inferior to that of Lariboisière. And we should naturally be led to conclude that the mortality of La Pitié was greatest; but such was not the case. We find from statistical comparison of the mortality at the two hospitals since 1858, when Lariboisière was opened, that the mortality in both was much the same. During eleven years, Lariboisière has received 100,718 patients, of whom 12,616, or one in 7.9, died; whilst La Pitié received 103,707, of whom 13,189, or one in 7.8, died. Facts like these, M. Gallard contends, show that artificial systems of ventilation of hospitals are, to say the least of them, useless. Then, again, it appears that during these years, in which statistics were taken, the average duration of diseases in Lariboisière is about two days longer than in La Pitié. It is needless to add, that the expense attending artificial ventilation is great. M. Gallard has often noticed an inconveniently high temperature in wards artificially ventilated. In Lariboisière, where the ventilator of Farcot is employed, the temperature is generally about 17° to 18° cent., and sometimes even above 26°, when 15° or 16° should have been the maximum. The original expenditure on the ventilating apparatus at Lariboisière was upwards of £16,000; and every year the expense of heating the hospital is more than £3,000, whilst that of La Pitié costs only £1,000.—*Brit. Med. Journ.*, Sept. 23, 1865.

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Ventilation of Sewers.—M. ROBINET, a French chemist, has devised a means of freeing the sewers from the effluvia which escape in the attempt to ventilate them. He proposes that the furnaces of factories shall derive their supply of air from the sewers. The gases will be destroyed by combustion, fresh air from the atmosphere supplying their place. He calculates that if the combustion of only 70,000 tons of coal can thus be economized annually in Paris, or only a tenth part of what is burned there, the sewers will be supplied with about 140,000,000 cubic feet of fresh air—that is, more than seven times their contents—daily. He would apply the same principle to the ventilation of cesspools, etc. It has been partially in use already, on the small scale.—*Scientific Review.*

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Pharaoh's Serpents.—Now that these amusing and scientific toys are in such extensive demand, it is right that their nature and composition should be made generally known, with a view to determine whether their employment is compatible with safety, or whether the products of their combustion are detrimental to health. These toys

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consist of sulphocyanide of mercury, a compound, as the name implies, of sulphur, cyanogen, and mercury, the whole of which substances are volatilized by heat, each of them, during combustion, producing a number of more or less injurious and even poisonous products. The sulphur is, for the most part, converted into sulphurous and sulphuric acids, gases of an extremely irritating and suffocating character. The cyanogen, a highly poisonous substance, is partly volatilized unchanged, and is partly decomposed, evolving carbonic acid, nitrogen, and also, by its union with a portion of the sulphur, giving rise to the formation of the very deleterious vapour of bisulphide of carbon, while a portion of it is converted into the organic substance, termed mellon, and which constitutes, in fact, the chief residuary constituent of the so-called serpents; while, lastly, the mercury is sublimed in the state of vapour. Such being the injurious and poisonous nature of the gases evolved, it is very necessary that persons with delicate lungs, or suffering with any disease of those organs, should be most careful not to inhale the products of the combustion of the "serpent's eggs;" and in all cases great care should be taken that the room in which these toys are burned be freely ventilated. So satisfied are the authorities in Prussia of their deleterious properties, that the Government has forbidden their sale except by persons who are specially authorized to sell poisons.—*Lancet*, Nov. 18 1865.

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Irish Lunatics.—By a return issued a few days ago it appears that in the year 1864 there were committed to county gaols in Ireland 460 dangerous male lunatics, and 292 females—752 in all. The number of insane persons confined in distinct asylums in the same year was 5914; while the total number of persons which such asylums are capable of accommodating is only 4959.—*Brit. Med. Journ.*, June 24, 1865.

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Lunacy in Scotland.—The seventh annual report of the Commissioners on Lunacy for Scotland has just been issued. The number of insane persons in Scotland on January 1st, 1864, of whom the commissioners had official cognizance, was 6,391. Of this total 1 039 were supported by private means, 5,320 by parochial rates, and 32 were criminal lunatics in the Central Prison at Perth. The statistics of the seven years ending January 1st, 1864, show on the whole much steadiness in the extent and distribution of lunacy, with latterly some tendency towards diminution in most counties. On comparing the mortality of private and pauper patients, the commissioners find the ratio to be nearly alike on both sides.—*Ibid.*

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Smallpox in Berlin.—The *Berliner Klinische Wochenschrift* contains a statistical account of an epidemic of smallpox which prevailed in Berlin during 1864. In 1863, there were 1270 cases, of which 223 were fatal. During the first half of 1864, the disease became more frequent; the number of cases increasing from 227 in January to 644 in May and 628 in June. In July the number fell to 323, and in August to 150; after which it diminished to 55 in November, again rising to 77 in December. The total number of cases in the year amounted to 3,319; of which 617, or 18.5 per cent., died. Of the total cases, 1,590 were males, of whom 313 died; and 1,729 females, of whom 304 died. With regard to age, the results were the following:—

Under 10 years		854 cases	356 deaths, or 41.6 pr. ct.	
From 10 to	20	320	10	3.1
20	30	794	47	5.9
30	40	678	65	9.5
40	50	433	73	16 8
50	60	192	52	27
60	70	40	13	32.5
70	80	7	1	14
80	90	1	0	

Among children under 15 years, there were 976 cases, of which 360, or 36 per cent., died; among persons above 15, the number of cases was 2,343, and of deaths 257, or 10 per cent. Of vaccinated persons attacked, there were 2,719, of whom 310, or 11 per cent., died; viz., 413 children, with a mortality of 63, or 15 per cent., and 2,306 adults, of whom 247, or 10 per cent., died. Of the unvaccinated the number was 600, of whom 307, or 51 per cent., died; there being in this category 563 children with a mortality of 297, or 52 per cent., and 37 adults with a mortality of 10, or 27 per cent. Among revaccinated persons the number of cases was 168, and of deaths 16, or 9 per cent. On these statistics, the reporter in the *Berlin. Klin. Wochenschr.* remarks, that the mortality among vaccinated persons was really smaller than appears From inquiries extending over several months, it was found that,

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when death from smallpox occurred in children said to have been vaccinated, the operation had either not been performed, or had been done unsuccessfully, or only a few days before the attack of smallpox. Not a single death occurred among children who had been properly vaccinated.—*Brit Med. Journ.*, Sept. 16, 1865.

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Smallpox in Calcutta.—During the latter part of 1864 and the early months of the present year, smallpox prevailed extensively in Calcutta and other parts of India. For the reception of cases occurring in Calcutta, a temporary hospital, consisting of a bungalow and sheds, was established at Chitpore, in the neighbourhood of that city, and placed under the care of Dr. Chuckerbutty. An elaborate report of that hospital from the 23d December, 1864, to 13th April, 1865, drawn up by Dr. Chuckerbutty and presented to the Bengal Government, is before us. During the period embraced within the report, there were 627 patients admitted with smallpox, of whom 249, or 39 7 per cent., died.[1] The cases were thus distributed. Among Europeans there were 188 males, of whom 51, or 27 per cent, died; and 23 females, the deaths among whom were 5, or 21.7 per cent. Of native patients there were 317 males, with a mortality of 134, or 42.7 per cent.; and 99 females, of whom died 59, or 59.5 per cent. The percentage mortality among Europeans was thus 26.5; and among natives 46.4. As regards age, there were:—

Under 5 years	37 cases	11 deaths	or 26.8 per ct.
10	30	7	
15	33	2	6
20	126	48	38
30	310	142	45.8
40	69	31	44.9
50	15	6	40
60	6	2	33.3
70	1	0	

There were thus 100 cases in children under 15 years of age, of whom 20 died; and 527 in adults, of whom died 229, or 43.4 per cent. The average daily number of admissions during the first seven weeks was 5 3, and of deaths 1.3; in the next four weeks, the daily admissions averaged 7 9, and the deaths 4.14; and the next five weeks the daily averages were 4 and 2. As regards vaccination, the tables contained in the report show that 354 cases and 185 deaths occurred among those unprotected by vaccination; 27 patients were vaccinated too late to prevent the occurrence of smallpox, but none died; 12 had been vaccinated twice, of whom none died; 148 had been vaccinated once, of whom 43 died. The disease appeared in 65 native patients who had been inoculated, and of those 20 died. In 20 patients, the attack was not the first; and 6 of these had also been vaccinated. The majority of the cases—555—were of the confluent form of smallpox; and the deaths among these were 245, or 44 per cent. There was generally much prostration, requiring the free use of stimulants. Bathing, according to Dr. Chuckerbutty, was a very important adjunct to the treatment; and the proximity of the hospital to the river afforded opportunities for this.

"As a rule, every patient was bathed as soon as the eruption began to desiccate, and the bathing was repeated at intervals during the whole convalescence. The effect of this practice was truly marvellous. Patients who seemed to be on the very point of expiring always survived under the agency of the tepid bath. . . . . Many of course died, but none within twelve hours of the bath, and so not in any way to be laid to its account. . . . . Patients of all classes, both Europeans and natives, the moment they were able to walk, preferred to go into the river and bathe in the running stream; so I had them sent down in batches with the ward-master and some coolies to prevent accident. This I found to be very beneficial; for the skin seemed to clean itself under this much faster than it would have done under any other plan."

In another part of the report, he says that the pitting of the skin has been far less than he could have expected, and that he attributes this to the free and early use of baths. Where bathing could not be used, washing of the patient was employed, and was a source of much comfort. Dr Chuckerbutty is so convinced of the utility of bathing, and of the necessity of frequently washing the patients' clothes, etc., that he expresses an opinion that "smallpox hospitals should always be placed in close proximity to an abundant supply of running water." After making in the report a number of remarks on the establishment, accommodations, furniture, etc., of the hos-

[1] At the final closure of the hospital on June 8th, the total number were as follows: admissions, 690; deaths, 264; recoveries, 426. The percentage of deaths was 38.26.

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pital, the localities whence the patients came, the symptoms and characteristics of the disease, its complications and sequelæ, and other matters, he concludes with advising the establishment of a permanent smallpox hospital for Calcutta, in order to avoid the inconvenience and expense attending the formation of temporary hospitals. He advises the permanent retention of the hospital at Chitpore, with such additions as may be necessary; and suggests that, when smallpox is not prevailing, it may be used as a cholera hospital, for the reception of cholera cases, by which other hospitals of the town are dangerously overcrowded.—*Ibid.*

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An Operation for Fistula in Ano Two Hundred Years Ago.—M. Le Roi, in his *Curiosités Historiques*, gives the following interesting account of a "grand operation" performed on Louis XIV:—

On the 18th of November, 1686, Versailles was astounded with the news that Louis XIV. had undergone the "*grande opération*," as it was then called, for fistula *in ano*. An abscess at the margin of the anus of the king had been discovered in February, 1686; and Félix de Tassy, his chief surgeon, at once proposed to open it. But, as Dionis remarks, "the deference to opinion necessary for a cure is not always found among the great." A thousand *infallible* remedies were immediately proposed; and of these, a plaster made by Madame de la Daubière was selected as preferable to the lancet of the surgeon; and madame herself, as the chronicle tells us, assisted in its application. The plaster, however, was removed five days later, having only increased the king's sufferings; and it was at last resolved, on the 23d, that the abscess should be opened. But, contrary to the wishes of Félix, caustic was used for the purpose, instead of the knife. The result was that, when the caustic slough fell off, "the pus ran out of a small hole." Soon afterwards it was discovered that the fistula communicated with the interior of the gut; and an operation for its cure was therefore necessary.

Hereupon the king was again overwhelmed with the promises of infallible curers of *tumours*. Louvois, the minister, however, being in some sense responsible for the life of the king, would not allow any of their remedies to be applied to the king without having them previously tried on others. Thus, for example, the use of the waters at Barèges having been recommended, and having taken the fancy of the king himself, four persons with fistula were sent to Barèges, under the charge of Gervais, surgeon of La Charité, who had a great reputation in the cure of tumours. They were treated in a variety of ways, internally and externally, with the waters, for a long time; but the result was, says Dionis, that at the end they were no nearer a cure than when they started for Barèges. Next came a court lady, who reported that she had been cured of a fistula at the waters of Bourbon. Consequently four other patients with fistula were sent there, under one of the king's surgeons; but they also returned uncured. Still Louvois was besieged with promises of a cure; and, not wishing to throw away a chance, had several rooms in his ministerial hotel at Versailles fitted up for the reception of all fistula *in ano* patients who were willing to have remedies tried upon them. Félix was to watch the action of the remedies, and to report upon them. The experiments were carried on for a length of time; but all the *infallible* waters, ointments, etc., turned out complete failures.

Of all these proceedings the king was informed by Louvois and Félix, who urged upon him that all attempts to cure the fistula without operation were in vain. Before finally deciding, the king sent for Bessières, who was then in great repute at Paris; and by him was told that "all the remedies in the world would do nothing without an operation." Thereupon the king determined to undergo the operation. But *what* operation? At that time there lived at Paris one Lemoyne, who had great repute as a curer of fistula. Of him Dionis writes:—

"His method consists in the use of a caustic, spread over a little plug, and introduced into the opening; this plug is enlarged day by day, so as to destroy all callosities and sinuses. By this process, and with plenty of patience, he cured many fistulæ. He died old and rich; and he made the people pay well; and in this he was right, as the public only esteem those things which cost them dear. All patients who dreaded cutting fell into his hands; and, as the number of cowards (*poltrons*) is always great, he never wanted for practice."

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The ligature was the plan most in use; but Félix preferred the knife. Félix, therefore, was called upon to describe to the king the entire history of these different remedies. Caustic, he told him, produced continual pain for five or six weeks. The ligature required a long time to cut its way through, and also needed frequent tightening, and so constantly produced pain. The pain of incision was, he admitted, sharper, but then it was only for a moment; and the cure for incision was certain and rapid, and this could not be said of either the caustic or the ligature. Félix's arguments, supported by those of d'Aquin, Fagon, and Bessières, decided the king for incision. Félix was a bold man; for at that time the operation by the knife was looked upon as a great and terrible affair. But Félix was not an ordinary man. He was the son of the king's surgeon, Félix de Tassy; had been carefully educated by his father, in hopes that he would become his successor; and at an early age was celebrated as a skilful surgeon. In 1676 he, in fact, became first surgeon of the king. Félix at the time had never performed the operation which he proposed to the king. But, while the experiments of the "curers" were being tried, he read everything which had been written on the subject; and, what is more, operated on all the patients having fistula *in ano* who were received into the Paris hospitals and into La Charité at Versailles. When therefore the king had at length resolved upon the operation, Félix had become a master in its performance.

Félix used a modification of Galen's syringotome. It was a very narrow curved knife, terminated by a stylet several inches long. The cutting part of the blade was covered with a silver sheath. This instrument was introduced through the fistula into the rectum, and then brought out at the anus. The sheath was then gently withdrawn; and the knife, now laid bare, held by the hand and by its stylet end, was at once made to cut its way out. This knife received the name of the *Royal Bistoury*.

The operation was performed on November 18th, 1686. The king had kept his intention a secret. He came to Versailles on the 15th; and on the 17th he rode out publicly on horseback. On the 18th, at five o'clock in the morning, the apothecaries administered a lavement. A little before seven, Louvois brought Madame de Maintenon to the king, who was found engaged with Père de la Chaise, his confessor. In the Cabinet des Bassans were assembled Félix, d'Aquin, the king's chief physician, Fagon, Bessières, the four royal apothecaries, and Laraye, Félix's pupil. At seven o'clock they entered the king's room. Louis XIV. made Félix show and explain to him the instrument, etc.; and then with perfect confidence, and most composedly (as we are assured), placed himself in Félix's hands. The operation was performed in the manner above indicated; and then, with eight cuts of scissors, Félix removed the callosities which were exposed when the incision was made. Louis bore the operation without a cry or a word. A large plug of charpie, covered with oil and yolk of egg, was then forced into the wound.

Consternation seized all the courtiers when they heard that the king had undergone this *dangerous* operation. For the first few days afterwards, things went on well; but, on December 7th, it was found necessary to destroy the new cicatrix, and to lay bare the fistula to its base. After this second proceeding, the operation succeeded.

Félix was well rewarded. His fee was 50,000 crowns, and the estate of Mouhineaux, estimated at a like value. D'Aquin received 100,000 *livres;* Fagon, 80,000 *livres;* the four apothecaries, each 12,000 *livres;* and the pupil Leraye (who was not forgotten), 400 *pistoles*—the sum paid amounting altogether to about £40,000! Félix's practice now naturally became very large; for, as Dionis says:—

"Fistula *in ano* has become a fashionable disease since the operation was practised on the king. Those who had before, through shame, concealed the disease, now made it public; and many went to Versailles to undergo the operation, because they knew that the king made inquiries about all operations of the kind. Some even, who had simply hæmorrhoids, or a slight discharge, were angry when they were told there was no necessity for an operation."

"Such," says M. Le Roi, "is the history of the operation performed on Louis XIV. Thanks to the happy initiative of Félix, the method of operating by incision was again brought into honour, and has since been generally adopted. A man, indeed, may now-a days successfully practise the operation without being first surgeon of the king—

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so simple has the operation become."—*Brit. Med. Journ.*, Sept. 23, 1865.

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Fictitious Spirits.—A few instances have been discovered of the sale of drinks under the names of "Indianna brandee," "medicated whiskee," "pure Islay mountain," "Indian tincture," and "red currant cough elixir," the exciting principle of all of which was found to be hyponitrous ether prepared from methylated spirit. The above compounds were all highly stimulating, and it would appear that they are consumed by some of the poor, because they produce intoxication at the cost of only a few pence, while there are good reasons for believing that hyponitrous ether itself, and in some parts of Ireland even sulphuric ether, are used by the needy classes for the same object. It is difficult to see how this evil, so pernicious to the moral and physical welfare of those who indulge in it, can be checked as the substances under consideration possess more the character of medicines than of ordinary spirits, and may thus be legally kept and sold by any chemist. In such cases all that can be done is to cry, "Buyer, beware,"—*Inland Revenue Report.*

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Ovariotomy in Paris.—M. Labbe, a hospital surgeon of Paris, presented to the Surgical Society, Oct. 17, a woman aged 29 upon whom he had performed ovariotomy three months before. Her health was now perfect.

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Honours to French Physicians.—The Emperor of the French has conferred the insignia of the Legion of Honour on the house physicians of the Paris Hospitals, who have shown great devotion in their attendance on the cholera patients admitted during the present epidemic prevalence of that disease.

—

Literary Men and Doctors.—It is pleasant to record the fact that nearly every literary man and woman with whom I have been acquainted, or whose lives I have looked into, has found a generous and disinterested friend in a doctor. I could, of my own knowledge, tell many anecdotes of the sacrifices made to mercy by members of the profession; of continuous labours without a thought of recompense; of anxious days and nights by sick and dying beds, without the remotest idea of "fees." I may tell one of a doctor, now himself gone home; it was related to me by Sir James Eyre, M. D. Unfortunately I have forgotten the name of the good physician, but there are, no doubt, many to whom the story will apply. Sir James called upon him one morning, when his career was but commencing, and saw his waiting-room thronged with patients. "Why," said he, "you must be getting on famously." "Well, I suppose I am," was the answer; "but let me tell this fact to you. This morning I have seen eight patients; six of them gave me nothing, the seventh gave me a guinea, which I have just given to the eighth." Such a physician Providence sent to Thomas Hood.—S. C. Hall's *Biography of T. Hood.*

—

English Hospital in Paris.—The Messrs. Galignani have built and endowed a hospital of twenty-five beds for the English poor residing in Paris. It is placed under the direction of an English sister of charity, and two English surgeons give gratuitous attendance. The property has been made over to the English Ambassador by the founders.

—

Therapeutic Action of Sulphites.—Signor Giovanni Ferrini, who has been experimenting upon the action of sulphites, concludes that, as periodic fevers are the expression of a morbid fermentation of the blood, sulphites may be employed in such cases with advantage. Indeed, he believes that they may almost be substituted for quinine. In typhoid fever, according to his observations, sulphites appear to arrest the process of disorganization of the blood; in five cases they were employed with perfect success even when the symptoms were severe. Signor Ferrini states that in a case of hectic fever in a phthisical patient the administration of sulphites removed the fever and prolonged life for a considerable period.—*Lancet*, Nov. 25, 1865.

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Godard Prize.—The Anatomical Society of Paris has awarded this prize to M. J. V. Laborde, of Paris, for his memoir, bearing the following title:—

1. On a primitive lesion of the spinal marrow in the paralysis of infancy—its seat and nature.

2. The secondary alterations of the muscles in the same disease—a kind of muscular atrophy, not hitherto described.

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No one treating skin diseases should be without a copy of this standard work.—*Canada Lancet*, Aug. 1863.

The new system of classification, which has now been adopted, adds materially to the usefulness of the volume. We have also an appendix of selected formulæ, consisting of prescriptions which have been found valuable in the therapeutics of skin affections. This edition, then, commends itself even more than the preceding, to the profession as an elaborate and complete treatise on the subject.—*Buffalo Medical Journal.*

The writings of Wilson, upon diseases of the skin, are by far the most scientific and practical that have ever been presented to the medical world on this subject. The present edition is a great improvement on all it predecessors To dwell upon all the great merits and high claims of the work before us, *seriatim*, would indeed be an agreeable service; it would be a mental homage which we could freely offer, but we should thus occupy an undue amount of space in this *Journal*. We will, however, look at some of the more salient points with which it abounds, and which make it incomparably superior in excellence to all other treatises on the subject of dermatology. No mere speculative views are allowed a place in this volume, which, without a doubt, will, for a very long period, be acknowledged as the chief standard work on Dermatology. The principles of an enlightened and rational therapeia are introduced on every appropriate occasion. The general practitioner and surgeon who, peradventure, may have for years regarded cutaneous maladies as scarcely worthy their attention, because, forsooth, they are not fatal in their tendency; or who, if they have attempted their cure, have followed the blind guidance of empiricism, will almost assuredly be aroused to a new and becoming interest in this department of practice, through the inspiring agency of this book.—*Am. Journ. Med. Sciences*, Oct. 1857.

Executed in the highest style of art, remarkably faithful to nature, and exceedingly cheap.—*Montreal Med. Chronicle*, Nov. 1858.

We feel justified in saying that every part of it is replete with information distinguished by completeness and accuracy. The author shows a thorough mastery of his subject, both literary and practical, and has shown by his writings an indisputable claim to take a high rank in the profession as an authority on diseases of the skin. —*Lancet.*

In truth "The Diseases of the Skin," by Mr. Erasmus Wilson, may now be regarded as the standard work in that department of medical literature. We have been led by our estimation of this work to take a more extended review of its contents than is customary in second notices; and we must now conclude by recommending it very warmly to our readers, and especially to the junior members of the profession. They will find the volume to fulfil, in every particular, the character which it assumes, of being a practical guide to the diagnosis and treatment of the diseases of the skin.—*The Medico-Chirurgical Review.*

As a practical guide to the classification, diagnosis, and treatment of the diseases of the skin, the book is complete. We know nothing, considered in this aspect, better in our language; it is a safe authority on all the ordinary matters which, in this range of diseases, engage the practitioner's attention, and possesses the high quality—unknown, we believe, to every older manual, of being on a level with science's high-water mark; a sound book of practice.—*London Med. Times.*

No matter what other treatises may be in the library of the medical attendant, he needs the clear and suggestive counsels of Wilson, who is thoroughly posted up on all subjects connected with cutaneous pathology. We have, it is very true, other valuable works on the maladies that invade the skin; but compared with the volume under consideration, they are certainly to be regarded as inferior lights in guiding the judgment of the medical man.—*Boston Med. and Surgical Journal*, Oct. 1857.

Published by HENRY C. LEA, Philadelphia.

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VOL. XXIV. FEBRUARY, 1866. No. 278.

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JONES ON FUNCTIONAL NERVOUS DISORDERS, 16 PAGES

CHOLERA.

Notes on the Pathology and Treatment of Cholera. By GEORGE JOHNSON, M. D., F. R. C. P., Professor of Medicine in King's College, etc. (Continued from p. 4.)

We have shown that two classes of facts stand in bold opposition to the theory that the collapse of cholera is due to a drain of liquid from the blood. We have seen that there is no such direct relation between the degree of collapse and the amount of liquid discharged from the blood as must exist if the hypothesis in question were true. We have also seen that the symptoms of collapse differ essentially from those which an excessive drain of fluid from the blood is known to produce. We have now to inquire *whether the effect of various and opposite modes of treatment upon the symptoms of collapse affords support to the theory that a drain of liquid from the blood is the essential or the chief cause of that condition.*

The effect of alcoholic stimulants.—The condition of a patient in collapse—cold and pulseless, and apparently exhausted—is one which naturally suggests the use of stimulants. Any one who has witnessed the speedy improvement in the pulse and other symptoms, which usually follow the administration of wine or brandy to a patient who is fainting from loss of blood or exhausted by excessive purging, might reasonably expect to obtain similar results from the same means in the collapse of cholera. Accordingly, stimulants have been given, and given freely and boldly; and the result has been a very general conviction that in the stage of collapse they are not only useless, but positively injurious. Again and again have I seen a patient grow colder, and his pulse diminish in volume and power, after a dose of brandy, and apparently as a direct result of the brandy. Dr. Gull (*Report on the Morbid Anatomy and Pathology of Cholera*, p. 185) states that, "although opium

Published monthly by HENRY C. LEA, Philadelphia, *for One Dollar a year; also, furnished* GRATUITOUSLY *to all subscribers of the "American Journal of the Medical Sciences," who remit the Annual Subscription, Five Dollars, in advance, in which case both periodicals are sent by mail free of postage.*

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and diffusible stimuli—brandy, camphor, and ammonia—were useful at an early stage of the disease, as collapse set in, they not only failed to produce any favourable result, but often aggravated the symptoms."

Dr. Paine, who has given an admirable description of cholera and its treatment in 1832, writes thus of stimulants (*Letters on Cholera Asphyxia as it has appeared in New York*, p. 42): "We have seen no benefit from their liberal use, and it is even doubtful whether they contribute much in any quantities. It requires the conviction of experience, however, to enable us to abstain from their use, and to resist the impulse to apply them to the dying spark."

The very general conviction as to the worse than uselessness of alcoholic stimulants in the collapse of cholera is the more to be relied upon, inasmuch as it has been forced upon men's minds in opposition to preconceived notions and prevailing theories. The action of stimulants in the collapse of cholera being obviously very different from their influence upon patients who have been exhausted by the loss of blood-constituents, we infer that syncope and choleraic collapse are pathological conditions essentially different; and this conclusion is confirmed in a most striking manner by the effect of other modes of treatment.

The effect of venesection on the symptoms of collapse.—It is scarcely necessary to assert that no sane practitioner would think of abstracting blood from a patient who has been reduced to a state bordering on syncope by any of the common sources of exhaustion which have before been referred to. It is obvious that the loss of blood in such cases might be attended with perilous and even fatal results. But what has been the effect of venesection in not one or two, but in a large number of cases of cholera, and in the hands of many different practitioners? Has the effect of this treatment been such as to afford support to the theory that collapse results from loss of liquid? or has it been to add to the cumulative evidence which stands opposed to that theory? We will endeavour now to answer these questions.

It is in the writings of the Indian practitioners that the largest amount of evidence is to be obtained as to the influence of bloodletting in cholera. Scott makes the following remarks on this subject (*Report on Epidemic Cholera*, p. lviii.): "The abstraction of blood, unless as an antispasmodic, is a remedy so little indicated by the usual symptoms of cholera, that its employment in the cure of this fatal disease has afforded a signal triumph to the medical art. It requires no common effort of reasoning or reflection to arrive at the conclusion that, when the powers of life appear to be depressed to the lowest degree, the pulsation of the heart all but extinct, the natural heat of the body gone, and the functions of the system suspended and incapable of being revived by the strongest stimulants, the abstraction of blood might yet prove a remedy against a train of symptoms so desperate." "Few remedies," he says, "on a fair trial, have been more generally and unequivocally advocated than free bloodletting; and the most that has been urged against it is, that it is not always successful." He then quotes reports from medical officers furnishing very striking testimony as to the benefit of bleeding in cases of extreme collapse.

Anneeley states (quoted by Scott, p. lx.) "In place of syncope being produced by bleeding, in the cases which I have treated, the pulse has invariably improved, and the feelings of faintness and debility disappeared."

Bell makes the following statement (*Treatise on Cholera Asphyxia*, p. 118): "The effect of bloodletting would indeed sometimes appear almost miraculous. A patient will be brought in on a cot, unable to move a limb, and but that he can speak and breathe, having the character, both to touch and sight, of a corpse, yet will he, by free venesection alone, be rendered, in the course of half an hour, able to walk home with his friends."

Rogers gives the following description of the effects of venesection by a medical man who was himself the patient (*Reports on Asiatic Cholera in Regiments of the Madras Army*, by Samuel Rogers, p. 259): "There was a sensation which I am at a loss to describe, as if my heart was ceasing to beat, and a dread of suffocation; this sensation was instantly relieved by bleeding, and I recovered immediately."

The following striking case is recorded by Sir Ranald Martin (*The Influence of Tropical Climates on European Constitutions*, 6th ed., p 349): "On visiting my hospital in the morning, the European

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farrier-major was reported to be dying of cholera. I found that during the night he had been drained of all the fluid portion of his blood. His appearance was surprisingly altered; his respiration was oppressed; the countenance sunk and livid; the circulation flagging in the extremities. I opened a vein in each arm, but it was long ere I could obtain anything but trickling of dark treacly matter. At length the blood flowed; and by degrees its darkness was exchanged for more of the hue of nature. The farrier was not of robust health; but I bled him largely, when he, whom but a moment before I thought a dying man, stood up and exclaimed, 'Sir, you have made a new man of me.' He is still alive and well."

Now let me ask, is it possible to reconcile facts of this kind with the theory that the collapse of cholera results from a loss of the liquid constituents of the blood? If Sir R. Martin's hypothetical statement, that his patient "had been drained of all the fluid portion of his blood," were an accurate expression of facts, can we conceive it possible that he could have "made a new man" of him by abstracting largely the blood which remained in the vessels? I maintain that the numerous well authenticated instances of great and immediate and permanent relief by means of venesection in the collapse stage of cholera, are utterly and hopelessly irreconcilable with the hypothesis in question.

The influence of purgatives.—If the symptoms of collapse were due to the drain of liquid from the blood, and its escape by the intestinal canal, it would seem to be impossible that the symptoms of collapse should pass away while the drain of liquid by vomiting and purging is continually going on. It would seem, too, that the action of purgatives during the stage of collapse must greatly increase the mortality. I do not here propose to consider the merits of the purgative plan of treatment. I wish only to refer to the indisputable fact that there are on record numerous well authenticated instances of recovery from extreme collapse, while the intestinal discharges were encouraged by repeated doses of emetic and purgative medicine. And, further, I challenge the advocates of the theory which I am endeavouring to refute to refer to a single case of recovery from collapse in which the intestinal discharges have not continued, in a greater or less degree, while the symptoms of collapse were passing off. If the theory in question were a true theory, the cessation of the intestinal discharges must always, and of necessity, precede recovery from collapse.

During the early part of the cholera epidemic of 1849, all the cases of cholera admitted into King's College Hospital were treated by liberal doses of brandy and opium. Under this mode of treatment, the mortality was very great. The treatment was then entirely changed; brandy and opium were discontinued, and large quantities of salt and water were administered. The effect of this treatment was to excite frequent vomiting, and certainly not to check, but rather to increase, the purging; and the result was a much larger proportion of recoveries than under the previous mode of treatment. I had no share in conducting the treatment on that occasion; but I was greatly struck by the different effects of the two opposite modes of treatment. I was also deeply impressed by observing that, during that epidemic, the arrest of the purging by opiates was in several instances *followed* by the worst symptoms of collapse; and a painful question arose in my mind, whether the collapse in such cases was not a direct result of the arrest of the purging.

At the commencement of the last epidemic—that of 1854—I had arrived at the conclusion that the commonly received theory of choleraic collapse is erroneous. I had the chief charge of the hospital during the whole period of the epidemic; and I gave emetics and purgatives to all the patients who came under my care. I have since published full particulars of all my cases. I am convinced that in many instances I gave an excessive quantity of castor oil; yet the result was a mortality, to say the least, below the average mortality in cases of equal severity. During that epidemic, many cases of choleraic diarrhœa came under my observation—cases in which there were vomiting, bilious purging, and cramps. These were all treated by castor oil, without opiates. They all recovered; and not one case so treated passed into collapse. Several of the medical officers, pupils, and nurses, and a considerable number of patients who were in the hospital for other diseases, had the premonitory symptoms of cholera. All were treated in the same way, and all recovered. In contrast with this most satisfactory result

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stands the fact that, during the previous epidemic of 1849, several inmates of the hospital, nurses and patients, having been seized with choleraic symptoms, and being promptly treated by opiates, passed into a state of collapse and died.

I see no way in which the facts here stated can be reconciled with the hypothesis that the worst symptoms of cholera result from the loss of liquid, and that the main object of treatment is to check the vomiting and purging.

The effect of injecting hot saline solutions into the veins.—It is well known that the injection of a hot saline fluid into the veins during the collapse of cholera has often been followed by great temporary relief. The pulse improves; the temperature rises; the countenance becomes natural; the voice recovers its strength; and, in short, all the worst symptoms speedily disappear—usually, however, to return with all their former severity within a very short time. The late Dr. Mackintosh, of Edinburgh, during the summer of 1832, injected the veins of 156 patients, of whom only twenty-five recovered. There are probably but few practitioners who now expect any practical benefit from this mode of treatment—few who would consider it right to repeat this experiment. But there are many pathologists who maintain that, since all the symptoms of collapse speedily disappear after the injection of a certain quantity of liquid into the veins, this experiment proves conclusively that the symptoms which previously existed must have resulted from the loss of a liquid similar in character to that which the operation restores to the blood. I believe, however, that the true explanation of the manner in which the hot saline injections afford the surprising temporary relief which they are acknowledged to have done, has been missed; and that, rightly interpreted, the results of this experiment afford as little support to the hypothesis that collapse depends on loss of fluid, as do the effects of other modes of treatment to which reference has already been made.

In a future communication, I will give what I believe to be the true pathology of collapse; and then I hope to explain the *modus operandi* of the saline injection into the veins.

Before attempting to give what I believe to be the true interpretation of the symptoms of cholera, I have thought it desirable to direct attention to some of the facts and arguments which are opposed to the commonly received theory. There is so much of apparent probability in the theory which explains the symptoms of collapse by the loss of the watery portion of the blood, that the practice of giving opium and other astringents to arrest the intestinal discharges will continue more or less, in spite of failure and disappointment, until it can be clearly shown that the state of collapse has an entirely different origin and cause from that which the theory in question assumes. —*Brit. Med. Journ.*, June 17, and Sept. 9, 1865.

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Cholera.—At the Academy of Sciences, M. Velpeau lately quoted the opinion of three medical men who were more or less in favour of sulphate of copper as a cure for cholera—Dr. Burq, Dr. Lisle, and Dr. de Prado; and added, that the medication in question had produced no marvellous results in Parisian hospitals. M. Chevreul offered some considerations on our actual knowledge of cholera. The cause of cholera is unknown; so also is its therapeutical treatment, or otherwise the prize Bréant would have been already adjudged by the Academy. The observations made as to the appearance of the disease in places where it is not endemic, give us, if not the certitude, at all events the great probability, that it is contagious. Assuredly the opinion that cholera is non-contagious cannot be held as demonstrated. In the mean time, it is far better for the sake of science and of the public health, to regard the disease as contagious. The physician who prescribes the isolation of cholera patients, and restriction of intercourse with persons in an infected ship, for example, subjects himself to no fear of self-reproach; but he who asserts the non-contagious theory, and places cholera patients side by side with others, *may* be the cause of fatal results. M. Guyon, who has had great experience of cholera, also spoke of its nature and treatment. Our learned and *spirituel* friend (M. Velpeau), he said, gave us a most truthful definition of the disease: "It takes a man and screws him up" ("Le mal vous prend et vous tortille"). M. Guyon views the disease as essentially spasmodic—the spasm resulting from primitive lesion of the nervous system. The heart is thus, he

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tells us, the first and most deeply smitten organ. "Its spasms and abnormal contractions explain all the disorders of the circulation, and the cyanosis attending the disease. In Poland, one of my colleagues gave to the cholera the name of spasm or cramp of the heart." The alvine dejections he regards in the same light as the fluids thrown off by the skin in sweating sickness. If these dejections contain, as some affirm, morbid matters, then their expulsion should be aided. Is their scantiness in very serious cases, and their absence in "dry" cholera, to be considered as a proof of their impurity or contagiousness? At all events, whatever opinion we hold, assuredly *it is not against these alvine dejections that we should direct our medication.*

Dr. Bonnafont tells the Academy of Sciences that the only efficacious remedy for cholera is a prophylactic one.

"The cholera can only be efficaciously attacked on the great Indian peninsula, or perhaps still better in London. Therapeutics have no remedy capable of neutralizing the deadly choleraic miasm. We must therefore trust to hygiene; and hygiene furnishes us with one which is undoubtedly efficacious."

The cholera seems still to linger at Malta. Some fresh cases have also occurred at Alexandria, and, in consequence, quarantine of twenty days has been placed on arrivals at Malta from that city. In Russia, cholera has appeared; and most energetic, and it is said efficacious, measures have been taken to prevent its spread. In Paris, the cholera still lingers; and there, wisely or unwisely, the number of deaths from the disease is kept from the public. *L'Epoque* says:—

"Notwithstanding our utmost desire to keep our readers correctly informed as to the progress of the epidemic, we are unable to do so, as the administration not only refuses to communicate official returns, but has warned the newspapers that any inaccuracy in the figures they might publish would render them liable to a prosecution for false news."

The number of deaths from cholera in Paris during October last is stated at 4,020; deaths from other causes being 4,274. From the 6th to the 12th instant, the deaths from cholera are put at 272.—*Brit. Med. Journ.*, Nov. 25, 1865.

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Chlorine Fumigations in Cholera.—Dr Nonat, of La Pitié, gives statistical proofs, as he considers, of the value of chlorine fumigations in preventing the spread of cholera in a hospital. The statistics are the results of observations made during the first eight months of 1854. He gives two tables, showing the number of cholera-patients brought into La Pitié and the number of cases which arose in the hospital itself, and the number of beds under different physicians.

Cholera-Patients brought into Hospital.

	Beds, Male and female.	Number of Cholera-patients.
M. Gendrin	94	173
M. Nonat	94	35
M. Valleix	80	31
M. Marrotte	96	50
M. Sée	82	40
M. Laugier	84	1
M. Michon	84	2

Patients seized with Cholera in the Hospital.

M. Gendrin	44	M. Sée	19
M. Nonat	5	M. Laugier	11
M. Valleix	17	M. Michon	5
M. Morrotte	23		

These tables show that the greatest number of cases of cholera arose within those wards into which the greatest number of cholera-patients were brought from without; but that this increase is not observed in M. Nonat's wards where fumigations were practised. Whether it may be considered as a coincidence or as a mere sequence, it is a fact (says M. Nonat) that the almost complete immunity from cholera contagion in my wards occurred from the moment of the permanent instituting of chlorine-fumigations in them.—*Ibid.*

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Isolation of Cholera Patients.—At the Parisian Hospital Medical Society, the question as to the isolation of cholera patients has been discussed.

At St. Antoine, where isolation was strictly practised during the first three weeks of the present epidemic, not a single case originated within the hospital. The cases which occurred afterwards were chiefly of attendants and in the neighbourhood of the cholera wards. Perfect isolation, said M. Bucquoy, appears to have been practised at the military hospital Gross-Caillou, and the dejections and vomited matters were disinfected. Not a single case originated within the hospital, although a great many

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cases were admitted.—M. Bernutz said that, at La Pitié, thirty cases out of 157 originated in the hospital; six of these came from the surgical ward situated near the place where the beds, etc., of the cholera-patients were cleaned; one of the persons engaged in cleaning them was attacked with cholera.—M. Bucquoy mentioned striking cases to instance the transmissibility of cholera. A wet nurse returning from Paris fell ill and died of cholera at Péronne on October 28th; her husband was also attacked, and died. Five other neighbours were also attacked. Another nurse, also returning from Paris, died of cholera; her child was then given to another nurse, who also died of the disease, as well as the infant. A third nurse was also attacked. They all three belonged to the same party; and had been living several days in Paris in the Quarter of Municipal Direction of Wet Nurses, where the epidemic was then raging. The result of this was, that wet nurses from Péronne were no longer allowed to go to Paris for the purpose of bringing back with them children for suckling. These facts were all found scrupulously correct, added M. Bucquoy. No case of cholera had been previously observed in the district, and the epidemic appears to have been stifled.—M. Hérard observed that the number of cases originating in hospitals was less than in former epidemics; and he attributed this to the present isolation of cholera-patients at St. Louis, where isolation was carefully practised, very few cases originated in the hospital.—*Brit. Med Journ.*, Dec. 9, 1865.

CLINICS.

CLINICAL LECTURE.

Clinical Lecture on the Study of Children's Diseases. Given in the Hospital for Sick Children. By CHARLES WEST, M. D., Physician to the Hospital.

GENTLEMEN: A very wise and good man, to whom I owe much of whatever I have learned of my profession—Dr. Latham—makes somewhere the remark that he was struck at the outset of his career with how, in a large hospital, knowledge was continually running to waste for the want of some one to gather it. He says, too, that this which struck him then, struck him even more forcibly in after years; the old experience, in short, "*Ars longa, vita brevis,*" which is realized more and more as the shadows lengthen and the day goes down.

I feel it specially with reference to this hospital, because here, or in inquiries such as its wards suggest, my time, and thoughts, and energies have been engaged for the past five-and-twenty years, and I rejoice to see you here to-day, gentlemen, because in some of you I trust that I may find fellow-labourers—men already schooled by previous study, and who will be able as well as ready to gather for the common benefit, some of that knowledge which will otherwise be but too likely lost.

But I am glad, also, to see others here, who as yet are but imperfectly trained, because, while they have much to learn, they have come here, to one of the best places in which to learn it, since disease may here be studied in its simplest forms.

It has been recommended by some, most fitted to give advice, that the student of medicine should begin with the diseases of the eye, since through its transparent coats, as through a glass, the various processes of disease and recovery may be seen transacted, and "many of the little wonderful details in the nature of morbid processes may be learned, which, but for the observation of them in the eye, would not have known them at all." The ophthalmic wards of a hospital must, indeed, be revisited at a later period for the sake of the special knowledge to be obtained there; but they may well be visited at first for the elementary teaching which they afford.

Somewhat in the same way you may come at two periods of your career to the study of children's diseases. *First*, to observe disease in its simplest conditions: then *later*, to investigate the peculiarities of symptoms which result from the tender age of your patients, and the modifications of treatment, which on that account may be required.

First, I said, to study disease in its simplest form. The chemist who analyzes a substance submits it to various processes in order to remove from it all extraneous matters, and then applies to it tests to determine its real nature. This which the chemist does, however, is very difficult, indeed, in the investigation of disease. Pure pathology is the doctrine of disease, unmodified by the intervention of disturbing causes

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from without or from within. To this in adult age we scarcely ever attain. The body, even in apparent health, yet tends imperceptibly to decay. We study disease in its influence on parts already damaged. The follies of youth, the vices of maturer age, the anxieties of business, the failure of hope, all leave their impress on the body, diminish its reparative powers, and render the different organs inapt to do their duty, so that almost all disease appears in a complicated, scarcely ever in a simple form.

Care, too, which sits at the bed's head of the grown person, does much to retard recovery and to complicate disease. "Is your mind at ease?" said his physician to poor Goldsmith on his death-bed, observing how his pulse outbeat the frequency for which his bodily ailment would have accounted. In childhood there is little or none of this; no regret for the past; no dread of the future. The present is the world in which little children live; pain past is almost forgotten; and this mental tranquillity contributes in no small degree to their recovery.

But I will no longer occupy you with insisting on things with which a little time spent here will make you quite familiar. I will rather make a hasty survey of some of the cases which are now in the hospital, or which have been here so recently that many of you have had the opportunity of seeing them. I select them very much for the illustration they furnish of the unsolved problems which I want some of you to try to answer.

A little boy, aged 19 months, was admitted into the hospital, on the fourth day of an attack of pneumonia of both lungs. His respirations were 60; his pulse beat 148 in the minute. There was dulness at the base of both lungs, especially of the right; fine crepitation was heard below both scapulæ. I scarcely need add that the child seemed very ill. He was drowsy, but at the same time restless. He was very hot, and his skin dry. He had some cough, but not very much. A mustard poultice was applied to the back and the chest. A little ammonia was given with small doses of ipecacuanha; beef-tea and wine for food.

In the night the distress and restlessness were extreme until relieved by spontaneous vomiting; but on the afternoon of the fifth day the child was already better; the respiration had fallen in frequency to 44; and there was slightly improved resonance of the chest. Improvement continued. On the ninth day the respiration had fallen to 21, and the pulse to 124; percussion yielded an almost natural sound; and some largish crepitation was the only evidence remaining of the dangerous illness.

Now here the recovery took place speedily and decisively, and in a way in which one could not refer it to the remedies employed. Nor is this a solitary case; it is one of many to which attention has of late years been especially called, which raise the question as to when and how far an expectant treatment may be adopted in inflammation of the lungs. It suggests to you the importance of determining the period of pneumonia, at which spontaneous improvement is most likely to occur, the circumstances which in any given case justify you in expecting it, and those which, on the other hand, render its occurrence doubtful. Further, there remains the important question whether, though recovery would take place independent of treatment, it yet occurs sooner, or is more complete if treatment is adopted than if the case is let alone.

A girl, 7½ years old, was admitted with the following history. Nine months before she suffered from severe pain in her limbs, which yet did not constantly keep her in bed; but she was up every morning, and then as afternoon came on, grew worse, and went to bed. During much of this time her heart beat very much, and at the end of a month, when the pains in her limbs had already ceased, she suffered so much from her heart that she was confined to bed for six weeks. When better she attended for some months as an out-patient, but six months after her illness began, her legs swelled, her breath became short, and at length she came for admission here.

The heart's impulse was visible in the fourth, fifth, and sixth interspaces; the apex beat in the sixth interspace, one and a half inch outside the nipple line. The upper dulness limit reached to the third rib, and the inner to a finger's breadth to right of the sternum. The oblique diameter of the heart was five and three-quarter inches, the transverse five, the longitudinal three and three-quarter inches; while, as you can now see for yourselves, there is a very manifest bulging of the whole heart's region. There was a prolonged wheezing

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systolic murmur heard at the apex, which diminished rapidly in loudness towards the base; the second sound was inaudible at the apex, but clearly heard at the base of the heart.

I am not going to trace this child's history in detail. She got relief from treatment, went out much better in three months, but soon came back in a state of great distress, for now pericarditis had come on. For some time she seemed likely to die, but once more got better, and you see her now, eighteen months after the rheumatism in which her sufferings began.

Now, here you have a case of heart disease, with enormous dilatation of the organ, succeeding to a comparatively slight attack of rheumatism. Each year adds to the child's sufferings, from which she will find rest only in an early grave.

Why is this so? Why does even a very small amount of valvular disease tend in some instances to produce a large amount of dilatation?

It is not an invariable occurrence. So little, indeed, is it invariable that Dr. Latham notices the probable existence of some compensating power in the young heart, by which atonement is made for the effects of valvular disease: "a certain *protective* power possibly inherent in the growing heart, whereby it can accommodate its form and manner of increase to material accidents, and so suppress or counteract their evil tendencies."

But why is this sometimes? Why not always? Why not often? Is this happy issue rarer now than formerly, and if so, can it be that the change in practice which recent years have brought with them—the abolition of depletion, the disuse of mercury, have rendered the cure of rheumatic affections of the heart less complete than formerly? Or is it only, and this I apprehend to be the case, that our diagnostic skill and pathological knowledge have outstripped by far our therapeutical resources, that we discover the ills which we are impotent to cure?

A strong-looking, well-made girl, 10 years and nine months old, began to suffer causelessly from chorea three weeks before admission into the hospital. There was no history of rheumatism in her family, nor had she herself presented any rheumatic symptoms, though there was a weak systolic bruit audible at the apex of her heart, which persisted, but did not increase either in extent or in loudness during the whole of her illness. The choreic movements were at first limited to the left arm, but they increased rapidly in spite of treatment, so that a month after admission the child was compelled to be placed in a bed padded all round, on account of the violence of her movements, while deglutition was very imperfect, and speech almost abolished.

She remained in the hospital for three months; at the end of which time she was almost well, and was sent into the country. She was submitted to very varied treatment, but without benefit, and her eventual improvement was spontaneous. For a time she improved in the country, but at the end of two months returned with a relapse of all her former symptoms, though their severity was far less than on the former occasion. In this instance medicine seemed just as unavailing as before. The child began spontaneously to improve at the end of one month, was well at the end of two months, and has, I believe, since continued so, though the time is yet too short to feel sure of the permanence of her recovery.

Here, again, are several questions which await an answer. Why is the first attack of chorea almost always the most severe? Why is there no definite relation between the severity of chorea and the severity of the heart affection, and why is the heart sometimes quite unaffected, even though the chorea is very severe? Lastly, why is the heart affected at all, since the assumption of its rheumatic character, though true to a certain extent, is yet by no means always tenable?

Further, what clear indications can be laid down for the treatment of chorea besides the two furnished by the existence of constipation on the one hand, and anæmia or debility on the other, and the combined use of purgatives and tonics which they suggest?

Zinc and antimony, strychnine and belladonna, shampooing and sulphur baths have all been used in the treatment of chorea. When is the one right, when the other, or in what combinations are they best employed? In what combinations? for I would not have you fall into the error into which the prevalent folly of homœopathy may imperceptibly lead you, of supposing that in order to act at all each remedy must be employed alone. He is the best physician, who knows best not only what remedies to

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use but in what combinations; as the skilful general trusts not to his infantry alone, nor alone to his cavalry, but gains his victory most surely and most quickly by using different troops in combination; or,

"As many arrows loosed several ways
Fly to one mark."

Two more cases, and I have done for today. One is in the hospital now, the other recently left.

A boy, 8¼ years old, was always a backward child, and while teething had three attacks of convulsions. Three months since he seemed causelessly languid for a fortnight: and then he was suddenly seized with vomiting. For six weeks together the vomiting returned daily or every other day. It was associated with an increased languor, and, by degrees, with drowsiness, and with pain in the occiput, which, though constant, became sometimes so severe as to make him scream aloud. A month after the commencement of these symptoms he was first observed to squint, and at the end of two months he had a fit which lasted for half an hour In the ensuing month these fits returned six times. The vomiting ceased after the first fit, but the other symptoms continued, and became associated with pain on any movement of the limbs, and three weeks before his admission into the hospital it was first observed that his pupils were dilated, and that he had lost the power of sight.

He was a pale, thin child, with a peculiarly wretched expression of countenance; absolutely blind—his right eye looked straight forwards, his left inwards, and both were in a state of constant motion. He had complete power over his limbs. His headache was not constant; his appetite was good, and he did not vomit during the fortnight that he remained in the hospital. Nothing, however, seemed for a moment to amuse or please him, and he was allowed to go home all the more readily that his case was not one which held out much prospect of benefit from treatment.

What was this case? There was no family history of tubercle, nor did the boy present any appearance of it. Still the symptoms are not those of any acute inflammatory disease, and I should be disposed to imagine that they were due to the gradual development of some tumour (and these tumours are almost always tuberculous), which, arising at the base of the brain, had, by degrees, increased until by pressure on the optic nerve it had abolished the power of vision. And here it may remain stationary, though more probably it will continue to grow until it causes death, either suddenly by some outpouring of blood from the vessels at the base of the brain, or more slowly, by the production of inflammation, or by effusion, into the ventricles consequent on pressure on the veins of Galen.

Here is, lastly, another case, somewhat obscure, indeed, but yet less so, I take it, than the preceding one:—

A girl, 8½ years old, whose father and two of her brothers had died with symptoms of brain disease, had suffered for a fortnight from troublesome cough, when she seemed unusually heavy, was attacked by violent sickness with headache, and sank speedily into a state of stupor, which continued with intervals, during which her mind wandered, and she rambled in her talk for thirty-six hours. At the end of this time consciousness returned, and the child sat up in bed, and showed some gleams of cheerfulness, but the pulse, which had been irregular during the state of stupor, still continued so, and the head was held somewhat retracted. Pain in the head and some retraction of it continued, though the child was well enough to be up, and moved about the ward.

She left by her mother's wish in a fortnight, and at the end of another fortnight she returned, much emaciated, complaining of pain which was now referred more to the ears than to the head, of pain also in the neck and in the right shoulder, towards which her head was inclined.

On this occasion she remained in the hospital four weeks. During this time she grew thinner and thinner, her skin became harsh, her abdomen retracted and tender to the touch, and her head was still drawn back as before. Auscultation now found the breathing weak everywhere, but especially so at the apex of the left lung, and percussion there was obviously dull. There was no vomiting, however. The bowels, once constipated, had now become regular, the complaints of headache were less constant, and the pulse had lost its irregularity. General tuberculosis was advancing; the mischief in the brain, I suppose, was stationary.

What is the import of this sudden development of the signs of cerebral disease, and what of their spontaneous passing into

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abeyance? If we could learn to answer these inquiries aright we might possibly do something to arrest disease, even though we were unable to effect its cure. Here, then, is another problem which I leave for your consideration.

But, say you, you came here to be told what I do know, and I have talked to you almost entirely of what I do not know, and that is not the object of a lecture, the purpose of which should be to impart positive knowledge.

Gentlemen, it is not quite so. The acquisition of knowledge implies an active, not a passive state, and to this it was my object to excite you. It is when you seek as for riches, and search as for hid treasure, that you gain it; so, at least, said the man wiser than other men, and who himself wrote of all things, from "the cedar of Lebanon to the hyssop that groweth on the wall."

You have come to the study of medicine, furnished far differently from those who, like myself, entered on it more than thirty years ago. It is but right that you should turn these advantages to good use. We are, indeed, as has been well said, like people standing together on a hill, which I have climbed before you, and I, to whom the landscape is in some measure familiar, may say to you, look here and look there, and you will see this and that. But further, I say to you, the objects there are indistinct to me; but you have perspective glasses of higher power than mine; turn them in this direction or in that, and you may with patience discern clearly what I can see but partially, or, with my imperfect instrument, perhaps cannot see at all.

If you visit the wards of this hospital, I may, too, do some of you the service, that I may point out to you what is worth the seeing, and may help to guard you from the dangers of the young student—that of playing with the instrument itself, vain, perhaps, of his dexterity in its use, or of turning it thoughtlessly on trifling things not worth the investigation.

You must not forget that it is your duty, as it is mine, to map out the country for the use of yourselves and of future travellers, to seize its great features, which may serve as landmarks, and not to waste your time on some quaint tree or curious rock which lies quite out of the path along which you have to journey.

"Nisi utile est quod agimus vana est gloria nostra" should be your motto, though in a different and a lower sense, indeed, from that in which it was employed by the inspired penman some eighteen hundred years ago.—*Med. Times and Gaz.*, Oct. 28, 1865.

HOSPITAL NOTES AND GLEANINGS.

Case of Ligature of the External Iliac Artery.—On November 17 Mr. ADAMS tied the external iliac for the cure of an aneurism of the common femoral artery. The case was that of a woman, aged 53, and was peculiar from its being supposed to have originated from a kick in the groin received three years ago. A swelling resulted from the violence inflicted, and remained stationary until five months ago, when it began to enlarge until it increased to the size of two fists, and extended into the pelvis at least three inches. The limb was much swollen and very tense in some parts, owing to the pressure upon the vein. The minute capillaries of the skin were much distended.

An incision of at least five inches was made in the usual situation, and the layers of abdominal muscles and the fascia transversalis were carefully divided, and the artery was readily secured.

The case has progressed satisfactorily to the present time, the tumour has much diminished, and the leg has returned to its natural shape and size.

The ligature came away on the twenty-ninth day.—*Med. Times and Gaz.*, Dec. 23, 1865.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Council of Hygiene, Citizens' Association of New York.—This council, the officers of which are: *President*, Joseph M. Smith, M. D., *Vice-President*, Willard Parker, M. D., *Secretary*, Stephen Smith, M. D., with twelve of the most eminent physicians of the city as members, have proposed the following organization for effecting sanitary improvements of towns, and for the prevention and mitigation of cholera.

"*Whereas*, The commercial and social relations of the cities, villages, and communities of the State have become so intimate

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by the great facilities for travel, that contagious, infectious, and epidemic diseases are rapidly and widely disseminated from populous towns, where they are fostered and frequently generated by the neglect of sanitary works, to other towns along the principal public thoroughfares, and to the most remote rural districts; and

"*Whereas*, Cholera, the most fatal of modern epidemics, and soon apparently to visit this country, is governed by the same law of progression as other pestilential diseases, spreading from town to town along the great routes of travel, and selecting the filthy and unclean districts of cities for its ravages; and

"*Whereas*, Experience teaches that the communicable diseases of towns and epidemic cholera may be controlled, and frequently suppressed, by the timely and rigid enforcement of proper sanitary regulations; and that when the latter is prevailing its severity may be greatly mitigated, and its fatal issues prevented by the prompt and efficient treatment of its premonitory symptoms; therefore

"*Resolved*, That the people of this State have a common interest in the public health of its cities and villages; and, for their own safety, as well as for the public good, should, with united effort, sustain every measure designed to effect sanitary improvements of towns, and to prevent the spread of pestilential diseases therefrom.

"*Resolved*, That in view of the approach of Asiatic cholera, we urge the medical profession of the State of New York to form voluntary organizations in every city, town, village, and community exposed to an attack of the epidemic, for the purpose of effecting, *first*, needed local sanitary improvements; and, *second*, to organize a corps of house-to-house visitors, who, in the event of the prevalence of cholera, shall visit the poor at their homes daily, and search out and promptly treat all cases of premonitory diarrhœa.

"*Resolved*, That all such organizations be invited to correspond directly with this council, and with each other, in order to concert of action in the adoption and prosecution of measures of prevention and mitigation of cholera, and for the purpose of a systematic study of its various phenomena over a large field."

The council, in the prosecution of their objects, "has organized a corps of Medical Sanitary Inspectors, thirty-one in number, who have made a thorough inspection of the city, the results of which have been published in the form of a report to the Association.

"With this corps of inspectors, properly augmented, the Council propose, in the event of the appearance of cholera, to undertake a systematic house-to-house visitation, with a view to the early treatment of the premonitory diarrhœa at the homes of those affected. This plan is extensively adopted in England, and there is evidence that in former visitations of cholera many towns were saved from a single fatal case, though thousands of cases of diarrhœa were treated.

"It is the hope of the Council that similar voluntary associations will be made in every city, town, village, and community, in order that the Medical Profession of the State may present a united front against the invasion of the epidemic; and, in the event of its breaking out in any locality, may have in readiness for immediate and effective action, an organization that will control its progress and mitigate its severity."

The prompt and judicious action of the profession in New York city in this matter cannot be too highly commended, and we most earnestly urge upon the profession here and elsewhere throughout our country the adoption of a similar course.

—

American Sanitary Museum of Dr. Thomas W. Evans.—[Dr. Thomas W. Evans, now of Paris, desiring to benefit mankind generally, and to confer honour on his native country by making known abroad a great number of inventions, made by his countrymen for relieving sick and wounded soldiers, has issued the following circular, to which we invite attention:—]

"Penetrated with the idea that the Sanitary Commission of the United States, by mitigating the horrors of war, had resolved one of the most urgent questions of modern time, I was one of the first persons in Europe who endeavoured to acquaint the public with the organization and the results of that admirable institution. I first published a book ('La commission sanitaire son origine, son organization et ses résultats') in which I conscientiously exposed the efforts and the final success of the Sanitary Commission during the gigantic struggle that the United States sustained with un-

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abated courage. Afterwards appeared my French translation of military, medical and surgical essays. By acting so I felt I was serving both the cause of humanity and that of my native country.

"After having shown the wonderful results of the Sanitary Commission, it would be just and proper now to acquaint the public with the great number of ingenious inventions, made by my countrymen in view of relieving the sick and the wounded soldiers

"In order to realize this project, I intend to assemble in a collection the products of those inventions which have enabled the Sanitary Commission to fulfil its mission.

"The universal Exhibition that is to be opened in Paris in 1867, is certainly the best opportunity for the inauguration of this Sanitary Museum. During that exhibition no civilized nation will be unrepresented in the French metropolis. The articles exhibited in such a Museum will therefore call the attention of all those who wish the welfare of mankind, and acquaint all nations with the name of their inventors.

"In addressing myself to my countrymen I am firmly convinced that they will assist me in my patriotic and humanitary enterprise. Although I am willing to purchase all such articles as may be useful, I shall gratefully accept any object that the inventors or manufacturers would wish to contribute.

"I therefore most respectfully request all such persons who are disposed to co-operate in the creation of the American Sanitary Museum, to address their communications to Dr. Thomas W. Evans, 15 rue de la Paix, Paris (France), or to M. Abner L. Ely, 22 Pine Street, New York.

THOMAS W. EVANS, M. D.,
15 *rue de la Paix.*
Paris, Dec. 1, 1865."

FOREIGN INTELLIGENCE.

Death from Chloroform.—At a recent meeting of the Berlin Medical Society, Dr. Hüter related a case of death from chloroform which occurred in the Surgical Polyklinik. A boy 4½ years of age, who some time since had an attack of scarlatina followed by œdema of the extremities and albuminuria, was brought on account of retention of urine, none having been passed, according to his mother's account, for two days. Slight œdema still existed, and the child looked pale and ill. On examination there was found to be distension of the bladder, but the boy was so restless while it was made that it was deemed prudent to administer chloroform before passing the catheter. This was given by an assistant accustomed to its exhibition, a napkin being moistened with a small quantity—this being, in fact, less than children of this age usually require, and not to be compared to that employed in operations. The abdomen was examined again, and a catheter was passed into the bladder, from two to three minutes at most having elapsed since it was determined to employ chloroform. At this moment, however, the lips were observed to become blue and the jugulars distended, while the pulse and respiratory movements ceased. A deep inspiration was caused by passing the finger down to the epiglottis, but this could not be renewed; a second one, however, occurring upon opening a vein of the neck and discharging an ounce or two of blood to relieve the turgor. Tracheotomy was now resorted to (a third inspiration occurring during its performance) and artificial respiration performed, the diaphragm being at the same time stimulated by the induction apparatus, and the face kept sprinkled with cold water. Electricity was also applied in the region of the heart, and this was followed by acupuncture of the organ by means of two long needles. The heart's action, which had ceased to be audible, was seen by the regular and isochronous movements of the needles to become temporarily revived. These, however, soon ceased. All these means were most energetically applied by able assistants, and Dr. Hüter does not see that in a similar case that he could do otherwise, excepting, perhaps, that he would resort to acupuncture of the heart at an earlier period. No account of the autopsy is furnished. He does not think that so exceptional a case of death from chloroform should influence our general employment of this agent—this, indeed, being the first instance on record of a child under five years of age dying from the effects of chloroform. Deaths under chloroform may be ranged in three categories—those in which this agent really exerts no essential effect, the patient dying not through, but during, the narcosis, in consequence of some other circumstance accompanying or preceding the operation; those cases in which the

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narcosis only operates mediately—*e. g.*, through the flow of blood into the anæsthetized glottis during operations on the throat; and those cases in which the narcosis is the direct cause of death. It was so in the present case, although the patient had inhaled so little of the chloroform the entire purity of which has been ascertained.—*Med. Times & Gaz.*, Jan. 6, 1866.

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Epidemic of Trichinosis.—An eye-witness gives in a recent number of the *Deutsche Klinik*, an interesting account of a severe epidemic of *trichinosis* which occurred at Hedersleben, in Prussian Saxony—a place containing about 2,000 inhabitants. A butcher having slaughtered two pigs, most of the consumers, among whom were many factory hands, ate the chopped flesh in a raw condition; and soon afterwards many persons at the factory were seized with a similar illness. One of the doctors of the town immediately suspected trichinæ, but others called in consultation declared the affection to be cholerine. However, as out of 37 cases 20 soon died one after the other, the autopsies amply proved that the disease really arose from trichinæ; and three weeks after the first case the whole number had amounted to 300, with 40 deaths. (According to another account, there were 100 deaths.) This does not represent the whole numbers, for several persons, alarmed by the cholera panic, left the town, and of these several have died at the places they repaired to. At the autopsies, even three weeks after the outbreak, numerous "parent trichinæ" were found in the intestinal mucous membrane, the great bulk of the animals being in the intramuscular structure. The number of children affected, going down even to the third year, was remarkably great, yet they all recovered. As on other occasions, some of the patients, though exhibiting all the characteristic symptoms, denied having eaten pig's flesh, while some admitted only to have partaken of the fat. The immediate cause of death seemed to be paralysis of the inspiratory muscles; the most alarming symptoms, besides the loss of motion, were the profuse sweating and complete sleeplessness. There was delirium only in one case, and the convalescence resembles that of typhus. It seems that in examinations which have been recently made of beetroot, which forms the principal food of pigs, numerous animalcules have been found, but these are said to present quite different characters to those of the trichinæ.—*Med. Times & Gaz.*, Jan. 6, 1866.

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Etherization.—M PETREQUIN, of Lyons, brought the subject of *etherization* the other day before the Academy of Sciences. It seems that he and almost all the Lyonese surgeons have adopted ether in preference to chloroform during the last fifteen years, and have met with no fatal cases or serious accidents, while complete anæsthesia has been promptly and effectually secured. Its free adoption at first was impeded by three circumstances, which no longer prevail. 1. The defective and complicated character of the apparatus employed. These have been now superseded by a simple contrivance, termed a *sac a etheriser*, which is admirably efficient. 2. The ether employed at first was of insufficient strength and impure. A strong, pure, concentrated, rectified ether at 62° or 63° is now sold for the purpose at the Lyons' *pharmacies*. 3. The inexpertness of the early manipulators is now exchanged for a dexterity which induces quiet and speedy etherization; while a careful observation of the pulse and respiration secures the patient from all accidents, which are easily averted, when threatening, by temporary suspension of the inhalation. Such accidents, under ether, are always progressive, and not sudden, as under chloroform. They may be anticipated or arrested, and never present themselves with the formidable rapidity characterising some of those induced by chloroform. M. Velpeau, while believing that the statement of the entire innocuity and prompt utility of ether made by so important a body as the Lyons practitioners is highly deserving of the attention of the Academy, does not think the argument for its preference over chloroform at all conclusive. Many of the dangers attaching to this latter agent may also be due to its impurity or unskilful application; but, speaking from his own experience, he has employed chloroform in many thousand cases during the last fifteen years, without ever meeting with a fatal case. This, too, is the case with many of the surgeons in the best practice in Paris, and with the entire school of Strasburgh. In fact, either agent may have its useful application under different circumstances.—*Med. Times and Gaz*, Dec. 23, 1865.

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Increased Use of Stimulants in the London Hospitals.—Some remarkable statistics regarding the employment of stimulants and the mortality in the London Hospital during some past years, appear in the last volume of the *Reports* of that hospital. In 1862, the number of in-patients was 4,519, and the general mortality 7.6 per cent. The quantity of stimulants consumed was 1.281 gallons of wine, 162 gallons of brandy. 38 gallons of gin, and 1,100 ounces of cinchonine.

In 1864, the number of patients was 4,619, and the general mortality 10.5 per cent.; the stimulants consumed by these being 1,558 gallons of wine; 359 gallons of brandy; and 77 gallons of gin. But as a set-off, if it may so be called, 760 more leeches were employed during this year than the average for the five preceding years; viz, 3,840. However, here we have a great increase in the amount of stimulants consumed, and also a great increase in the mortality of 1864 as compared with that of 1862. We state the facts, let it be understood, without in any way pretending to connect them as cause and effect.

Other statistics Dr. Fraser gives us under this head. "From 1854 to 1858, the annual average quantity of wine employed by each physician was 12,803 ounces;" each physician having an annual average of 391 patients under treatment. The annual average mortality was 11.87 per cent. But from 1860 to 1864, the annual average quantity of wine employed by each physician was nearly quadrupled, being 48,136 ounces; his annual average number of patients was 413; and the annual average mortality was 12 65 per cent.

From 1854 to 1858, each surgeon employed annually 38,016 ounces of wine; his annual number of patients was 1,036, and the average annual mortality 4.48 per cent.

From 1860 to 1864 (five years), each surgeon employed an annual average of 142,951 ounces of wine (nearly four times more than in the previous years); the annual number of patients under him was 1,065, and the annual average mortality 6.65 per cent.

Hence we have, in the practice of both physicians and surgeons, a distinct increase of mortality coincident with great increase in consumption of stimulants.

Dr. Fraser also tells us (referring to a former paper of his) that, in 1851, there were 4,051 in-patients in the London Hospital; that in 1857, there were 3,935 in-patients; and that the mortality was greater in 1857 as 8 to 6.5 per cent., although £962 more were spent in 1857 than in 1851 for articles of luxury.

It is curious to note, that the only comment which Dr. Fraser makes on the above remarkable statistics is this:—

"It is evident, that a steady rise in the employment of stimulants..... is still going on; and whatever be the cause, we may rest assured that the practice is imperative and needful; for it would be a monstrous assumption that a whole staff could be blindly following an objectless routine."

Not a single word of comment does Dr. Fraser bestow on the constant fact of the coincident increase of the mortality!

The summary of these statistics stands thus:—

From 1854 to 1858, each physician employed 12.800 ounces of wine annually; the deaths being 11.88 per cent. From 1860 to 1865, he employed 48,136 ounces; the deaths being 12 65 per cent.

During 1854 to 1858, each surgeon employed annually 38.016 ounces of wine; the deaths being 4.48 per cent. During 1860 to 1864. he employed annually 142,951 ounces; the deaths being 6.65 per cent.

In 1862, the general mortality of the hospital was 7.4 per cent.; the consumption of stimulants being 1,281 gallons of wine, 162 of brandy, and 38 of gin.

In 1864, the mortality was 10 5 per cent; the quantity of stimulants consumed being 6,558 gallons of wine, 359 of brandy, and 12 of gin.

We again repeat, well knowing the sad fallacies which are so often edited through an erroneous interpretation of statistics, that we do not pretend to connect the increase of deaths with the increase of stimulants consumed. But, when we reflect upon our modern advancement in medicine and surgery (especially as miscalled conservative), when we think of our great modern hygienic efforts, we may fairly ask for some explanation of the fact of a general advance in the mortality of a London Hospital.—*Brit. Med. Journ.*, Dec. 9, 1865.

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Baron Liebig on Coffee.—Baron Liebig, in an a recent No. of the *Popular Science*

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Review, gives the following directions for making this beverage:—

First of all, coffee should always be sorted. It frequently contains foreign substances, and usually a number of black mouldy berries; these spoil the flavour of the coffee. Berries of dark or green hue are generally dyed. They should be washed in a little warm water, and afterwards dried with a warm linen cloth. In order to retain the volatile caffeine, the berries should only be roasted till they are of a pale-brown colour. In those which are too dark there is no caffeine; if they are black, the essential parts of the berries are entirely destroyed and the beverage prepared from them does not deserve the name of coffee. When roasted, they constantly deteriorate by the access of air. If, when the roasting is completed, half an ounce of white or brown sugar be strewn over each pound of coffee, it gives the berries a fine glaze, which protects them from the atmospheric destruction. The usual methods of preparing coffee are classified by Liebig as—1st, by *filtration*; 2d, by *infusion*; 3d, by *boiling*. Filtration partially injures the aromatic particles, and makes an incomplete extraction. Infusion gives a very aromatic coffee, but one containing little extract. Boiling gives a coffee rich in extract, but poor in aroma. Here, then, is Liebig's compound method:

"The usual quantities both of coffee and water are to be retained; a tin measure containing half an ounce of green berries, when filled with roasted ones, is generally sufficient for two small cups of coffee of moderate strength, or one, so called, large breakfast cup (one pound of green berries, equal to sixteen ounces, yielding after roasting twenty four tin measures [of half an ounce] for forty-eight small cups of coffee).

"With three-fourths of the coffee to be employed, after being ground, the water is made to boil for ten or fifteen minutes. The one quarter of the coffee which has been kept back is then flung in, and the vessel immediately withdrawn from the fire, covered over, and allowed to stand for five or six minutes. In order that the powder on the surface may fall to the bottom, it is stirred round; the deposit takes place, and the coffee poured off is ready for use. In order to separate the dregs more completely, the coffee may be passed through a clean cloth; but generally this is not necessary, and often prejudicial to the pure flavour of the beverage.

"The first boiling gives the strength, the second addition the flavour. The water does not dissolve of the aromatic substances more than the fourth part contained in the roasted coffee."

This coffee, says Liebig, must be judged not only by its agreeable qualities as a beverage, but by its excellent effects on the organism. There are many other interesting details in the paper, for which we must refer our readers to the source abovenamed.—*Lancet*, Jan. 6, 1866.

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Oxidation of Fatty Vegetable Oils.—M. Clöez has exposed oils to the air in colourless glass vessels, and also in vessels of red, yellow, green, and blue glass, and also left some oil exposed to air in total darkness. After ten days' exposure the increase of weight was greatest in the colourless glass vessel; it was rather less in the blue glass; was very small in the red, yellow, and green; and no increase of weight at all was observed in the oil exposed in the dark. Like results were found after twenty days; but after thirty days' exposure the results were somewhat different. The increase of weight was greater in the coloured glasses than in the uncoloured, green showing the largest increase after 150 days' exposure. Poppy oil, after a time, oxidized faster in the dark than when exposed to coloured or white light. Oil heated in atmospheric air oxidized much more rapidly than cold oil. The oxidation may be accelerated without heat by adding some oil already oxidized.—*Ibid.*, from *Chem. News*.

—

M. Jobert de Lamballe.—We learn with regret from our recent journals that this eminent surgeon is suffering from mental derangement which has necessitated his removal to a lunatic asylum.

—

Obituary Record.—Several medical men have succumbed at Madrid from cholera. Professor Quintanilla, and Drs. Avilès and Montana, two of the leading physicians of the city, have fallen victims to it; so also have MM. del Pozo and Andrès, attached to the Ambulance; and Gabridra, the Dean of the Pharmaceutical Faculty pon y Camps, and the *Pharmacien* Iniguez, have been carried off. At Cadiz, Dr. Gabarron, Professor of Surgery, died of cholera.

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VOL. XXIV. MARCH, 1866. No. 279.

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CHOLERA.

Notes on the Pathology and Treatment of Cholera. By GEORGE JOHNSON, M. D., F. R. C. P., Professor of Medicine in King's College, &c. (Continued from p. 20.)

In previous communications, I have adduced some facts and arguments adverse to the commonly received theory that the worst symptoms of cholera are mainly due to the drain of water from the blood by vomiting and purging. If this theory be erroneous, it is of incalculable importance that it should be discarded; for it is unquestionable that it has had immense influence on the treatment of cholera, as well as on the estimate which men have formed of the effect of various modes of treatment. Let a practitioner be thoroughly persuaded that the essential cause of choleraic collapse is a drain of liquid from the blood, and it will be difficult to convince him that opium and astringents can do harm, or that an emetic or a purgative can do anything but harm in the treatment of that disease.

A recent writer in the *Lancet* (Oct. 21st, p. 461) says: "Were we a cholera-patient, we should pray to be delivered from men who have only one idea." Yet it is manifest that this writer is of the class from which he would pray to be delivered. His one idea is, that the secretions are suppressed "for want of serum; and that by supplying the materials of this, and by the use of means that shall act astringently, we are taking the best means to restore secretions." What does it avail to refer one, whose mind is thus prepossessed by a theory, to such facts as are contained in the very interesting paper by Mr. Watkins, published in a recent number of the *British Medical Journal* (Oct. 28th, p. 445)? Mr. Watkins there states that, in 1854, the deaths under various modes of treatment, but mostly with opium, having been more numerous than the recoveries, at a period, too, when

Published monthly by HENRY C. LEA, Philadelphia, *for One Dollar a year; also, furnished* GRATUITOUSLY *to all subscribers of the "American Journal of the Medical Sciences," who remit the Annual Subscription, Five Dollars, in advance, in which case both periodicals are sent by mail free of postage.*

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"the epidemic was increasing both in the number of cases and in severity," he treated twenty-one cases by repeated doses of castor oil; and, of the cases thus treated, nineteen recovered. About the same period, his colleague, Dr. Lett,[1] treated seven cases by full doses of opium, and "every case had died." What will be said of facts like these by a man whose one idea of the treatment of cholera is, that loss of fluid is to be counteracted by astringents? He will probably argue, that those who recovered while taking purgatives did so in spite of an erroneous and a mischievous treatment; while those who died under the opiate treatment succumbed to the disease in spite of a treatment which was theoretically correct, and which ought, therefore, to have saved them.

I am convinced, from a careful study of the history and literature of cholera, that there will be no general agreement as to the treatment of the disease until we have freed ourselves from erroneous theories as to its pathology and the relation of its symptoms to each other. With this conviction, I purpose now to set forth, as clearly yet as briefly as I am able, certain facts and conclusions regarding the pathology of cholera which appear to me to be well established.

That the symptoms of cholera result from a morbid poison, which may enter the blood either through the lungs or through the gastro-intestinal canal, is a point so generally admitted, that I will not now stop to discuss the question, or to adduce any of the numerous facts upon which this view is based.

The most constant and characteristic effect of this poison is to excite a copious secretion from the mucous membrane of the stomach and bowels. This secretion is tinged with bile *before* collapse comes on, and again *after* collapse has passed off; while during the stage of collapse it has the characteristic rice-water appearance, and bile can be detected only by chemical tests. The vomiting and purging constitute the means by which the morbid secretions are eliminated from the alimentary canal.

It is certain that the cholera stools contain some poisonous materials by which the disease may be communicated. One fact confirmatory of this view is the frequency with which washerwomen and their families have suffered from coming into contact with the soiled linen of cholera patients. It is probable, therefore, that the poison is eliminated through the gastro-intestinal canal. It is also probable that the secretion from the mucous membrane of the digestive canal, together with the vomiting and purging, are as much parts of the natural process of cure as is the eruption on the skin in the case of smallpox. This, at any rate, is certain, that, as no patient ever yet recovered from smallpox without the appearance of the characteristic eruption, so no sufferer from cholera was ever known to get well without more or less of vomiting and diarrhœa.

As, in the worst and most malignant forms of smallpox, the patient may die of blood-poisoning before the rash appears, so, in the worst and most malignant cases of cholera, he may die of collapse without either vomiting or purging, or with little of either. There is no direct relation, as we have seen (see pp. 1, 2), between the degree of collapse and the amount of vomiting and purging—sometimes rather an inverse ratio between them.

There is yet one more point of analogy between smallpox and cholera. As the variolous eruption, which is unquestionably curative, may yet by its very abundance be fatal through its destructive influence on the skin, so the choleraic secretions may be so copious as to kill by exhaustion. Death by exhaustion is certainly not a common result of cholera; yet with the known possibility of such a result, a rational eliminative treatment, while it endeavours to free the stomach and bowels from the morbid secretions which have been spontaneously poured into them, makes no direct attempt to increase the amount of excretion from the blood.

It has been suggested by some writers, that the analogy of smallpox and its treatment affords an argument against the eliminative treatment of cholera. It is said, with truth, that when the treatment of smallpox was conducted on the theoretical principle of assisting the development of the pustules and so the elimination of the poison, by keeping the patient in a close and heated atmosphere, the mortality of the disease was much increased. It would have been strange indeed if the mortality had not been increased by such a mode of

[1] The case of Dr. Lett himself is one of peculiar and most painful interest.

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treatment; but it is a result of shallow observation and reasoning, to infer that there is any analogy between that mode of treating smallpox and the use of emetics and purgatives in cholera. The unhappy sufferer from smallpox, who was covered with heaps of bed-clothes and confined in an artificially heated atmosphere, with closed doors and windows, was not only deprived of the refreshing influence of cool and pure air; but he was compelled to inhale again through his lungs the morbid poison which had escaped from his skin. This treatment was the exact opposite of eliminative. To eliminate is to put *à limine*, or out of door; but this irrational treatment rendered elimination impossible by closing the doors and windows through which the poison might have escaped.

So far from there being any analogy between this destructive mode of treating smallpox and the treatment of cholera by emetics and purgatives, the analogy would be much closer with an opposite mode of treatment—one by which a patient should be made to swallow his own evacuations, or one which approaches very near to this in its results; namely, that which has for its object to restrain the evacuations by opium and astringents, thus increasing the risk of the morbid secretions being reabsorbed into the blood.

There is no known cure for cholera—there probably never will be; but, as the cooling treatment of smallpox which, in spite of violent opposition, was first introduced by Sydenham, materially lessened the mortality from that terrible disease, so the general adoption of an eliminative treatment of cholera—by means of emetics, mild purgatives, and copious draughts of water—would, I am persuaded, do much to lessen the mortality from this great modern scourge.

The analogy of smallpox and the results of the two opposite modes of treating that disease, are certainly in favour of, and not opposed to, this view, as some writers have too hastily assumed.

In my next communication, I shall endeavour to explain the symptoms of that remarkable condition which we know by the name of choleraic collapse.

The symptoms and pathology of collapse.—The symptoms of choleraic collapse are so well known as to need no minute description. The most important and characteristic of them are the following. Coldness and blueness of the skin; great diminution of the volume and force of the pulse; shrinking of the features, with a corpse-like sinking of the eyeballs; more or less hurry and difficulty of breathing, with a short dry cough; a peculiar feebleness of the voice; coldness of the tongue and breath; a sensation of burning heat in the epigastric region; great thirst; more or less complete suppression of bile and urine; vomiting and purging of a rice-water fluid; torpor and drowsiness in a variable degree, but without delirium; and, lastly, cramps in the muscles. Most of these symptoms are present in every case of collapse; some, however, may be absent.

What is the pathological explanation of this remarkable train of symptoms? The one great central fact is this, that, *during the stage of collapse, the passage of blood through the lungs from the right to the left side of the heart is, in a greater or less degree, impeded.* Let us now consider the evidence of there being this impediment to the pulmonary circulation; and let us endeavour to ascertain the probable cause and consequences of this obstruction to the flow of blood. Very conclusive evidence as to the existence of impeded pulmonary circulation during life is afforded by the appearances observed in the heart, bloodvessels, and lungs after death. The *post mortem* appearances within the chest have been described, with more or less minuteness, by several authors; but by no one, I believe, with so much care and accuracy as by Dr. Parkes. (*Researches on the Pathology and Treatment of the Asiatic or Algide Cholera.*)

In the great majority of cases in which death has occurred during the stage of collapse, the right side of the heart and the pulmonary arteries are filled, and sometimes distended, with blood; while the left cavities of the heart are generally empty, or contain only a small quantity of blood; the auricle being partially and the ventricle completely and firmly contracted. The tissue of the lungs is, in most cases, of pale colour, dense in texture, and contains less than the usual amount of blood and air. With respect to the extremely anæmic condition of the lung, when death has occurred during the stage of collapse, there is an entire agreement amongst those authors who have most accurately described the

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post-mortem appearances. There is something surprising, as Briquet and Mignot observe (*Traité Critique et Analytique du Cholera Morbus*), in the contrast between the almost constant occurrence of this extremely anæmic condition of the lung, from which scarcely even a few drops of blood flow when the tissue is cut, and the hyperæmia of most of the other viscera.

There is a remarkable contrast, too, between this anæmia of the lung when death has occurred during collapse, and the great engorgement of the lungs which is almost invariably found when death occurs in the febrile stage which often follows reaction.

Now, it is evident, from the appearances here described that, during the stage of collapse, there is an arrest of blood in the branches of the pulmonary artery *before* it has reached the pulmonary capillaries. The arrest at this point explains the remarkable anæmia of the texture of the lungs, while the hyperæmia of the lungs after reaction is due to engorgement of the pulmonary capillaries. Before I attempt to explain this remarkable arrest of blood, it may be well to allude briefly to certain phenomena in the living but collapsed patient which afford confirmatory evidence that the pulmonary circulation is greatly impeded. The impeded flow of blood through the lungs resulting, as it must, in a very scanty supply of blood to the arteries, accounts for the character of the pulse in cholera. It accounts, too, for the fact that the pulse has often been observed to increase in power and volume under the influence of venesection, which, by relieving the over-distension of the right cavities of the heart, increases their contractile power. (See Dr. Reid's essay, *On the Effects of Venesection in Renewing and Increasing the Heart's Action under Certain Circumstances.*)

Another appearance which receives explanation from the small stream of blood in the arteries, is that of the shrinking of the integuments, and especially the collapse of the features and the sinking of the eyeballs. The eyes of a patient in deep collapse are often as much sunk as those of a corpse; and the chief cause of this, in the case of both the cholera-patient and the corpse, is the more or less complete emptiness of the branches of the ophthalmic artery.

That the arterial stream during collapse is reduced to a minimum, is proved by the fact that arteries of considerable size have been opened during life without the escape of blood. Magendie states (*Leçons sur le Cholera Morbus*, p. 21) that on one occasion, he cut across the temporal artery of a patient in collapse and no blood escaped. ("Il ne s'écoula pas une goutte de liquide.") Scott says (*op. cit.*, p. 30) that the temporal artery has often been opened without the escape of blood. He also states that a surgeon, "despairing of other means, cut down upon the *brachial* artery; but so completely had the circulation failed, that no blood flowed."

While, therefore, the small and feeble pulse, the collapse of the features, and the occasional absence of hemorrhage from a wounded artery, are explicable on the supposition that the arteries receive a very scanty supply of blood, these phenomena afford evidence confirmatory of that derived from *post-mortem* appearances, that during the stage of collapse the passage of blood through the lungs is much impeded. It appears, therefore, that, during the stage of collapse, the blood which is sent into the pulmonary artery is, in great part, arrested in the minute branches of the artery before it reaches the capillaries of the lungs. What is the cause of this arrest of blood? Some writers have suggested that the blood has been rendered so thick by the loss of serum, that it cannot pass through the minute vessels. This theory is scarcely deserving of a moment's consideration. It is entirely at variance with the fact before referred to, that there is no direct relation between collapse and loss of fluid by the bowels; and, again, with the fact that the state of collapse passes off, while loss of fluid by purging continues, and while, therefore, the thickening of the blood which, according to this theory, has stopped its passage through the lungs, should be continually increasing. The suddenness with which collapse often occurs, is quite inexplicable by the theory that thickening of the blood through loss of its water is the cause of that condition. In illustration of the sudden occurrence of collapse, I may refer to the following passages in Sir William Burnett's Report on Cholera in the Black Sea Fleet in 1854. "The first to be attacked were men already on the list for diarrhœa, several of whom fell into a state of collapse one after the other; but, about the same time, robust healthy men, who had fallen suddenly down in a state of collapse, began to

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be brought in from various parts of the ship, (the *Britannia*), even from the yards, where they were seized while reefing sails." And the surgeon on board the *Albion* reported that "the attacks in many instances were so sudden, that many men fell as if they had drunk the concentrated poison of the upas-tree." The supporters of this theory of blood-thickening as the cause of collapse would have us believe that, in the course of a few minutes, the blood of these robust men had become so thickened by loss of water as to be incapable of transmission through the minute vessels of the lungs. I shall hereafter show that the thickening of the blood is a *consequence* and not a *cause* of the arrest of blood in the pulmonary arteries.

I believe the true explanation of the arrest of blood in the lungs to be this. The blood contains a poison whose irritant action upon the muscular tissue is shown by the painful cramps which it occasions; the blood thus poisoned excites contraction of the muscular walls of the minute pulmonary arteries, the effect of which is to diminish, and in fatal cases entirely to arrest, the flow of blood through the lungs.

We have seen that the condition of the lungs after death during collapse affords conclusive evidence that the arrest of the blood occurs, not in the capillaries, but in the branches of the pulmonary artery, before the capillaries are reached by the blood. We know that the walls of the arteries are muscular, and that they have the power of contracting upon their contents under the influence of a stimulus, such as cold, electricity, or mechanical irritation. I suppose that no physiologist at the present day would deny that spasm of the arteries is as real a fact as spasm of the muscles.

Many experiments and observations prove that contraction of the muscular walls of the arteries has great influence on the passage of their contents. For instance, it is a well-known fact, that the tissues of an animal immediately after death cannot, without a force which endangers the integrity of the vessels, be injected with any of the fluids which are commonly used for that purpose. The coats of the arteries, so long as their vital tonicity remains, contract upon their strange contents, and impede the passage of the injection into the capillaries.

Nearly a century ago, Hales (*Statical Essays*, 1769) performed some ingenious experiments to demonstrate the power which arteries possess to control the flow of various liquids through them. His experiments were performed on animals recently killed: and he found that, while warm water passed very readily through the arteries, cold water, decoction of bark, and brandy, passed much more slowly.

Some experiments performed by Blake (*Edinburgh Medical and Surgical Journal*, vols. liii., liv., and lvi.) on living animals bear upon this question. He found that a concentrated solution of a salt and soda, when injected into the jugular vein of a dog, killed the animal in less than a minute. On examination after death, the right side of the heart was found greatly distended, while the left contained only a little black blood. A few grains of nitrate of silver in solution destroyed life in precisely the same way. The passage of blood through the lungs is arrested, and the animal dies with the right cavities of the heart distended while the left cavities are nearly empty.

The sudden arrest of the flow of blood through the lungs in consequence of the accidental admission of air through a wounded vein in the neck or axilla has some relation to this subject. The entrance of air has usually been indicated by a peculiar gurgling sound in the wound, and the symptoms which rapidly follow are thus described. (Dr. John Reid's *Physiological, Anatomical, and Pathological Researches*, p. 553.) "Speedy occurrence of syncope, which is either preceded by a cry, with the expression, 'I die,' 'I am dead,' 'I suffocate,' or by anxiety and tremblings. Or, without any such precursors, the syncope rapidly reaches such a degree that all consciousness is lost, and the patient falls down; cold sweat breaks out on the forehead; and, in a quarter of an hour, sometimes sooner, sometimes later, he is dead." After death, both in the human subject and in animals that have been the subjects of experiments, the right side of the heart is found to be much distended with frothy blood; and the same mixture of air and blood is usually found in the pulmonary arteries. The left side of the heart is usually empty; but a small quantity of frothy blood is occasionally found in the left cavities and in the aorta. The cause of death in these cases is the distension of the right side of the heart, which results from the impeded

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transit of frothy blood through the vessels of the lungs. Mr. Erichsen found, by experiments on a dog recently killed, that beaten bullock's blood, mixed with air, required nearly twice the pressure to drive it through the pulmonary vessels, that would suffice to drive unmixed blood through the lungs. (*Edinburgh Medical and Surgical Journal*, vol. lxi.)

I have referred to these experiments in illustration of the general principle: 1, that the movement of blood through the lungs may be quickly arrested by the addition of some foreign ingredient to the blood; and 2, that this arrest is probably due to the power which the arteries possess to contract upon their contents.

The proof that the blood is arrested during the stage of collapse in cholera is, as before stated, partly the anatomical condition of the lungs after death, partly the symptoms observed during life.

About two years since, I had under my care in the hospital a woman (S. B.) who was suffering from dropsy, the result of heart-disease of long standing. On going through the ward one afternoon, I saw her sitting up in bed as well as usual. In less than five minutes after I left her to go into another ward, I was sent for in consequence of her having become suddenly worse. I found her gasping for breath, cold and pulseless, with a blue and shrunken appearance of the features, exactly resembling the collapse of cholera. I at first thought that she would die in a few minutes; but she rallied in some degree, and lived forty-eight hours, during which time her dropsical legs became rapidly gangrenous. We found, as I had predicted, that besides old standing disease of the mitral valve, there were firm fibrinous coagula in the branches of the pulmonary artery. The sudden obstruction of the pulmonary arteries by fibrin caused a state of collapse exactly resembling that of cholera. (Hospital Case-book, vol. xix. p. 59.)

The most interesting and conclusive evidence that arrest of blood in the lungs is the true key to the pathology of choleraic collapse, is to be found in the simple yet complete explanation which it affords of all the most striking chemical phenomena of the disease—the imperfect aëration of the blood, the fall of temperature, the dark and thickened appearance of the blood, and the suppression of bile and urine.

Chemical consequences of the obstructed flow of blood through the pulmonary arteries.—It is obvious that the stream of blood from the pulmonary capillaries to the left side of the heart is the channel by which the supply of oxygen is introduced into the system. One necessary consequence, then, of a great diminution in the volume of blood transmitted to the left side of the heart, must be that the supply of oxygen is lessened in a corresponding degree. This position probably will not be disputed by any one who will give the subject a moment's consideration. Nor again can it be denied or doubted that certain results must of necessity follow this limited supply of oxygen.

The combustion of those constituents of the blood which are normally subjected to the action of oxygen will be diminished in proportion to the deficiency of that gas; and thence follows simultaneously and of necessity a reduction of temperature, and so scanty a formation of urinary and biliary constituents, that, while the state of collapse continues, the functions of the kidneys and liver are virtually suspended. The blood at the same time has that black, thick, treacly appearance which is not peculiar to the collapse of cholera, but which is common to it with all diseases which are attended with a defective aëration of the blood. The blood has this character during the cold stage of a severe ague fit. Dr. Mackintosh and others, who have bled patients during the cold stage of ague, describe the blood as flowing from the arm at first in a slowly trickling stream, being of a dark colour, and not coagulable. (See Mackintosh's *Practice of Physic*, vol. i. p. 86 *et seq.*) Dr. Dundas Thomson, who published an elaborate paper on the Chemistry of the Blood in Cholera (*Med.-Chir. Trans.*, vol. xxxii. p. 67), states that one specimen of blood from a "patient who laboured under the affection of the mucous membrane of the air-tubes," contained a greater excess of solids, in proportion to water, than he had found even in cholera-blood.

The blood in cholera is black and thick only during the stage of collapse; in other words, during the stage of pulmonary obstruction and defective aëration. This state of the blood bears no relation to the loss of water; it comes on when the loss of water has been very trifling; it passes off rapidly,

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while loss of water by purging continues unchecked. It is simply a result of defective aëration, just as the thick and smoky flame of a lamp is a result of defective aëration.

The constituents of bile and urine and carbonic acid are all results of oxidation; none of them can be formed without a large supply of oxygen. Suppression of bile and urine during the stage of collapse is a necessary consequence of the limited supply of oxygen which results from the obstruction of the lungs. The amount of carbonic acid expired during collapse is also much diminished. (See, on this point particularly, Twining's *Clinical Illustrations*, etc., 2d ed. p. 15.) One fact confirmatory of the view that the very scanty formation of bile, urine and carbonic acid during collapse is a result of the diminished supply of oxygen, is, that *the secretion of milk is apparently undiminished.* I have myself observed this fact, and it has been mentioned by several authors.[1] Thus Magendie states that, one of his patients having been delivered of a child a few days before she was seized with cholera, the secretion of milk continued so abundant through a first and a second collapse, which ended fatally, that it was necessary to empty the breasts, in order to relieve the pain which their distension occasioned. Now, if the other secretions are suppressed on account of the deficiency of water in the blood, why does the secretion of milk continue? Magendie says, because the blood reaches the breasts, and supplies the materials for their secretion, on account of those glands being nearer to the heart than the liver and kidneys, which being at a greater distance, do not receive the supply of blood necessary for the discharge of their functions! My explanation of this remarkable and instructive fact is simply this. The chief constituents of milk—casein, sugar, oil, and water—may be obtained from the blood without the addition of oxygen. The secretion of milk, therefore, continues during the stage of collapse; while the highly oxygenized secretions are suspended, their essential constituents being formed only in very minute quantities during that stage, on account of the defective supply of oxygen.

Explanation of the great temporary relief resulting from the injection of a hot saline solution into the veins.—No theory of collapse can be considered complete which does not give a satisfactory explanation of the great temporary benefit which immediately follows the injection of a hot saline solution into the veins. I have before referred to this subject; and I deferred my explanation until I had given some account of the phenomena of collapse.

I have adduced many facts and arguments in proof of the position that the essential cause of collapse is an arrest of blood in the lungs, occasioned by a spasmodic contraction of the muscular walls of the pulmonary arteries. If this be the actual cause of collapse, we might, *à priori*, expect that for a time it would be removed by the injection of a hot fluid into the veins. The temperature of the fluid injected by Dr. Mackintosh varied from 106° to 120°; but he states that "the good effects of the injection were rapid in proportion to the heat of the solution." (*Op. cit.*, vol. i. p. 365.) The hot fluid, rapidly mixing with the blood in the right side of the heart and in the pulmonary artery, would, as it were, dilute the poisoned blood and render it less irritating, just as diluents render the urine less irritating to an inflamed bladder or urethra. It is probable, however, that the chief action of the injection would be to relax the spasm of the minute arteries by its high temperature.[1] Thus, the impediment to the circulation being overcome, the blood rapidly flows on to the left side of the heart and the arteries, and the phenomena of collapse pass away with marvellous rapidity. The benefit, however, is of but short duration; for the primary cause of the impeded circulation—namely, the

[1] See on this point Magendie, *Leçons sur le Cholera Morbus*, 1832, p. 27; Dr. Hutchinson, *History and Observations on Asiatic Cholera in Brooklyn, New York, in* 1854, p. 10; Dr. Robertson, *Edinburgh Monthly Journal*, 1848, p. 393; and Dr. Gairdner, "On the Pathological Anatomy of Cholera," *Edinburgh Monthly Journal*, July, 1849.

[1] Dr. Parkes, who tried the injection in some cases, states that he did not see even the temporary vivifying effects which others describe. (*Op. cit.*, p. 219.) The probable reason of this is, that the temperature of his injection was too low. In one case, he says it did not exceed 98°; while in another it was "tepid." In the other cases, the temperature is not stated. I think, therefore, that Dr. Parkes's failure to do good by a tepid injection is confirmatory of my view, that the high temperature of the injection employed by Dr. Mackintosh and others had more influence than the mere mixture of water with the blood. I believe that the hottest room of the Turkish bath would quickly relax the spasm of the pulmonary arteries; and so, if it did not cause faintness, it might be a real help to recovery.

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poisoned condition of the blood—being still in operation, and the originally hot solution being cooled down by its diffusion through the entire mass of the circulating blood, the stream of blood through the lungs will soon again be obstructed; and the patient thus passes into a state of collapse as profound as and more hopeless than before. It appears, therefore, that the hot saline injection into the veins, and the operation of venesection, when it rapidly relieves, as it often has done, the symptoms of collapse, have this effect in common, that they facilitate the passage of the blood through the lungs, and thus lessen that embarrassment of the pulmonary circulation which is the essential cause of choleraic collapse. But, whereas the hot injections act by removing the impediment which results from spasmodic contraction of the arteries, venesection acts by relieving over-distension of the right cavities of the heart, and thus increasing the contractile power of their walls.

In concluding this communication, I would implore those pathologists who have hitherto thought that the temporary benefit following injections into the veins affords conclusive evidence that collapse results from loss of water, to consider whether the explanation here offered is not at least as probable, as complete, and as consistent with all the known facts of the problem, as that which is commonly received.—*Brit. Med. Journ.*, Nov. 4th and 11th, 1865.

(*To be continued.*)

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Pettenkofer's Theory of the Mode of Propagation of Cholera.—Dr. Hermann Weber read before the Epidemiological Society, Dec. 4, 1865, a paper based on Prof. Pettenkofer's last publication on the subject, "*Ueber die Verbreitungsart der Cholera*" (*Zeitschrift für Biologie;* Jahrgang, 1865, p. 323).

With regard to the question of contagiousness, Pettenkofer believes that the disease is propagated by human intercourse, and never without this; not by simple contact with the diseased or their excretions, according to the old theory of contagion, but by means of certain local accessory causes contained in the soil. Temperature, wind, moisture, or dryness of the atmosphere, and elevation of ground, are all not essential for the epidemic occurrence of cholera, although they may, under certain circumstances, exercise great influence on its course. The only indispensable conditions are, *human intercourse yielding the germ in the excretions of cholera patients, and the soil developing this germ into activity.*

The qualities of the soil considered as necessary for the development of the cholera-germ are—1. That it be porous—*i. e.*, permeable to air and water; 2. That water exist in a certain depth below the surface (ground-water or subsoil-water); and 3. That the soil be to some degree impregnated with the products of organic decomposition, especially those of excrementitious origin.

Respecting the first condition, Pettenkofer, and the members of the Bavarian Commission for the Investigation of Cholera in 1854, have found, without a single exception, that the soil in the towns and villages epidemically affected with cholera was porous; while localities built on impermeable rock were either entirely spared, or, at all events, exhibited only isolated cases. Several apparent exceptions were, on closer examination, found to confirm the law. The well-known researches of Boubée and Fourcault are in accordance with this law.

With regard to the presence of ground-water or subsoil water (landspring—"*Grundwasser*"—the first stratum of water reached at a certain depth below the surface, between about five and fifty feet), Pettenkofer points to the fact, generally acknowledged, that the cholera spreads with predilection along the course of rivers and in hollow situations; but he regards the water of the soil underneath the habitations as much more important than that of the more or less distant river; and maintains that, as a rule, those localities suffer more from cholera which lie nearer to the level of the ground-water, the distance of which from the surface may be regarded as depending on the first impermeable stratum of the soil. The fall of the impermeable stratum may be parallel to that of the surface, but is more usually not; if the former be greater than the latter, then elevation means greater distance from the ground-water, and probably greater immunity from cholera, but not otherwise. The level of the ground-water in the same locality may vary considerably in the same year and in different years; and on this fluctuation the varying degree of susceptibility of the locality for the cholera epidemics seems to depend. Under equal circum-

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stances, the rise of the ground-water will cause a greater susceptibility by moistening a higher stratum of the porous soil, which is generally more impregnated with organic matters the nearer it is to the surface. It is the period of receding of the ground water from its greatest elevation which is most dangerous. As this occurs usually in July, August, and September, cholera usually makes its greatest ravages at that period; but the unfavourable condition of the soil, may, through unusual circumstances, occur in winter instead of in summer; and cholera epidemics may, as experience shows, occur in the midst of a Russian winter.

With regard to the cholera-germ itself, Pettenkofer assumes it to be contained in the intestinal excreta of cholera patients, but believes that it cannot produce cholera by itself, but must first undergo some change under the influence of the susceptible soil, and thus become developed. This interchange between the cholera-germ contained in the excreta and the soil may, he suggests, either take place in the soil, and the developed germ may be thence inhaled or otherwise introduced into the body, or it may take place within the human body itself, the product being the active germ.

Pettenkofer adds hygienic suggestions for the prevention of epidemics, based on his views.

Dr. WEBER remarked that these views, though not yet altogether proved, were in accordance with the best ascertained facts, and deserved to be tested without loss of time. He added that the observations of the position and fluctuations of the ground-water might lead to other important discoveries, and alluded to the researches of Professor Buhl, of Munich, according to which the death-rate from typhoid fever, in Munich, was in intimate relation to the varying elevation of the ground-water in that town.—*Brit. Med. Journ.*, Dec. 16, 1865.

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Experimental Researches on Cholera.—Several interesting experiments have been conducted upon animals by Herr Thiersch, of Munich, and M. Robin. The latter injected the vomited and excreted matter of cholera patients into the trachea and veins of two dogs, and to a third dog he administered the matter vomited by a fourth dog, to which he had given the blood and serum of a cholera patient. In the three cases he observed the vomiting and other symptoms of cholera.—*Lancet*, Jan. 13, 1866.

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Albuminous Urine a Symptom of Cholera.—M. DE WOUVES, in a memoir just published, has demonstrated that albumen is present in the urine of all cholera patients some days before the more serious symptoms exhibit themselves. He does not attribute this fact to any disease of the kidneys, but he regards it as an important means of distinguishing between true cholera and diarrhœa.—*Ibid.*

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Cholera Cures.—The papers tell us that PROF. TOMMASI, of Naples, has been employing in cholera one of the remedies recommended by the *Times*, subcutaneous injections of quassia! And that M. Rubio has obtained very satisfactory results from hypodermic injections of essential oil of mustard. In Spain, some doctors have employed as a cure, ligaturing of the limbs "to intercept the circulation, and preserve the animal heat;" a practice described by *Siglo Medico* as a grand discovery. [!] In Constantinople, *L'Union Médicale* informs us that one of the remedies used by the doctors is to make the patient drink his urine when vomiting and diarrhœa begin. Another remedy, highly praised by Signor Bruno, is what may be called the bellows cure—the poking the nozzle of a bellows into the mouth or œsophagus of the patient and so insufflating him; the theory being that the cholera victim is dying for want of air. The quassia experiments are not spoken of by those who made them with any sanguine feeling; but then they console themselves with the reflection "that it is premature to form any opinion of experiments made on the decline of an epidemic."

A medical man, writing at Naples, says:

"The malady is rapidly on the decline, though I fear we shall not get entirely rid of it for a long time to come. On the whole, we have not suffered so much as the filth and conglomeration entitled her to. The more I see of the disease the more certain I am that its ravages might be entirely prevented by a house to house visitation, and an early treatment of premonitory symptoms. As to the treatment, this epidemic has again taught us nothing; many old remedies have been brought

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up anew, and puffed, such as quinine and quassia injections, chlorodyne and opium; but the result has been the same as in other epidemics—about 40 or 50 per cent. of mortality of the *declared* cases, while the mortality from subsequent typhoid fever has been the greatest in those cases that have been treated by violent remedies, and chiefly by opiates and alcoholic stimulants. The disinfectants used chiefly have been sulphate of iron for the excreta, while the rooms, bedding, furniture, etc., have been fumigated with chlorine gas. In the military hospitals the rule has been that no one left the hospital (of the medical and other attendants) before having remained a few minutes in a room exposed to these fumigations. The exemption of Sicily (and of Rome) up to the present time is certainly in favour of the *excommunicatory* system; but then, again, on the other side, Leghorn and Genoa have been exempted, though a quarantine of only a few days was insisted on. In addition to this, it may be observed that the islands in the Bay, which, from their position are cut off from close communication with Naples, have not been afflicted except in one or two cases, which were evidently carried over from the city."

Our readers will note in the above a confirmation of the views of Dr. G. Johnson. We are told that "the mortality from subsequent typhoid was greatest in those cases that had been treated by violent remedies, *and chiefly by opiates and alcoholic stimulants.—Brit. Med. Journ.*, Dec. 16, 1865.

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Cholera in Paris.—In the final report of the sanitary department of the "Préfecture de Police" it is stated that the total number of deaths from the recent epidemic of cholera amounted to 6,383.

There has been no fatal cases since the 14th of January.

CLINICS.

CLINICAL LECTURES.

Clinical Remarks on Locomotive Ataxy.—Two cases of locomotive ataxia treated in the Aberdeen Royal Infirmary by iodide of potassium with partial benefit, are reported in the *Med. Times & Gaz.*, Jan. 20, 1866, with the following interesting clinical remarks on this very unmanageable affection:—

"Locomotive ataxy is commonly mistaken for paraplegia. The features of each are so distinct that it is surprising physicians did not sooner recognise the difference. Duchenne's vague definition of locomotive ataxy is, 'Progressive abolition of the co-ordination of movement, and apparent paralysis, contrasting with integrity of muscular power; these are the fundamental characters of the disease.' Trousseau's is more definite, but commits science to what is yet but theory—'A spasmodic neurosis characterized by a want of co-ordination of the voluntary movements, often complicated with disorders of sensibility and partial paralysis.' The chief feature of the disease, when fully formed, is more or less inability to perform the reflex functions of standing or walking. On attempting to walk the patient finds his legs refusing to obey the ordinary co-ordinating power; they are thrust outwards or forwards spasmodically, and planted on the ground in an irregular way beyond the control of the individual, who is in constant danger of losing his equilibrium. If he succeeds in getting a start he moves forward in a precipitate manner, staggering and stumbling, and is obliged to use a staff to prevent himself from falling. A paraplegic patient, on the other hand, if able to assume the erect posture, drags his legs slowly, but uniformly along, his difficulty being not to control the movements of his legs, but to get them to move at all. The most characteristic differences between locomotive ataxy and paraplegia are the following: First, *in bed*, the patient with the former affection has complete power over the voluntary movements of the legs, as was well seen in the two cases recorded, both of whom tossed about their legs with the utmost facility, and defying all attempts to hold them, while in paraplegia the power of voluntary motion is in a greater or less degree lost; secondly, in locomotive ataxy, if the eyes be shut, the patient can no more walk or even stand, with his feet together than a person can stand or walk on stilts who has never been accustomed to them, while nothing similar is observed in paraplegia, or indeed any other kind of paralysis. In fact, a patient with ataxy closely resembles a tyro endeavouring to walk upon stilts. These diagnostic marks are, therefore, very important, and ought not to be overlooked.

"Locomotive ataxy seldom comes on

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without premonitory symptoms. The chief of these are rheumatic pains, partial and temporary attacks of paralysis, and disorders of urinary and generative organs. The pains are irregular, coming and going, and are generally mistaken for rheumatism. They were so in the girl S——; but that they were not rheumatic was at once evident from the fact that they were confined to one knee and ankle—a point of some importance, for rheumatic pains of this kind are mostly due to lesion of the nervous system. There does not appear to have been any other premonitory symptom in this girl, except amaurosis, which was, however, but slight, and the excessive pain on the one side of the head. Amaurosis is a very common symptom, as also paralysis of the third and sixth nerves, and indeed of any nerve. The paralysis of the ocular nerves is, in general, more persistent than that of others. Transitory attacks even of hemiplegia may occur, and it is singular that the father of the girl S—— was thus affected, although there is no history of ataxy in him. The premonitory symptoms in the man M—— were partial paralysis of the left facial nerve, and at one time what looks very much like incontinence of urine. He also had cutaneous anæsthesia, which is a frequent attendant on the disease.

"The usual post-mortem appearances found after death in these cases are gray degeneration of the posterior columns of the spinal cord, and atrophy of the posterior roots of the spinal nerves. So long as the posterior columns were believed to be the channel for the transmission of sensitive impressions to the brain, this state of parts existing with little or no loss of sensation, but with loss of the reflex power of standing and walking, was rather perplexing, especially as the anterior columns were free from disease; but since the experiments of Brown-Séquard have shown that the posterior columns have not the office formerly assigned to them, and moreover that section of them causes hyperæsthesia, instead of anæsthesia, together with locomotive ataxy, the pathology is more intelligible. But how does it happen that with atrophy of the posterior roots there is often little or no loss of sensation? The explanation given is, that the hyperæsthesia which would be produced by disease of the posterior columns alone is counteracted by the atrophy of the posterior roots, in which some nerve tubes remain intact, sufficient to account for the persistence of sensation. This may be true, but it is not quite satisfactory. It is to be regretted that the state of the sympathetic nerve has not received the attention it deserves. There seems evidence to show that that nerve has more to do with reflex motion than has generally been supposed. Last year M. Voisin presented to the Société de Médecine of Paris a case of locomotive ataxy of the upper extremities where the cervical sympathetics were found diseased.

"An attempt has been made to distinguish locomotive ataxy caused by disease of the posterior columns from that caused by cerebellar disease. I am afraid this will be found impossible in practice, at least in many cases. It may be possible to diagnose the locality of the lesion, whether in the cerebellum or in the spinal cord; but that both varieties belong to the same category I have no doubt. For, in ataxy from spinal disease, we also find sometimes structural change in the optic nerve, the optic tract, the corpora quadrigemina, and the motor oculi, without disease in the cerebellum; and yet in some cases of so-called ataxy, the only lesion found has been cerebellar. The ataxy likewise is not confined to the legs, but may proceed to the upper extremities, or even affect them solely, as in Voisin's case just mentioned. The cerebellar and spinal disease are, therefore, probably varieties of the same evil, the ataxy being the symptom. And here I may be permitted to quote some observations of Dr. Hughlings Jackson. Speaking of cases of paralysis of one or more cranial nerves, with paralysis of both legs, and no paralysis of the arms, except now and then a little paralysis of the hands or fingers, he says: 'One of three inferences may be drawn from these facts. 1. The symptoms may by some be considered to occur together by a coincidence. 2. That the paralysis of the cranial nerve is the result of reflex action, set up by the disease of the cord which produces the paraplegia. This is the explanation given by Dr. Brown-Séquard. 3. That there is a tract in the higher part of the nervous system which contains nerve-fibres from the legs and not from the arms, or, at least, only from the fingers or hands. Some of these cases resemble, and perhaps are locomotive ataxie. There is in some a loss of power in walking

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properly, whilst the legs seem to retain considerable power. This, of course, applies only to those whose sight is merely impaired. When the guiding power in the legs is lost, we use the eyes to direct our movements. Even in health 'we lean,' says a distinguished physiologist, 'on our eyesight as on crutches.' Patients who have ataxie, therefore, cannot walk in the dark, or when their eyes are shut. Blindness, following loss of guiding power in the legs, seems then to be not so much a complication as the loss of a similar faculty. But, when the patient has lost both these helps to guide himself, it is just possible that he may struggle his way from object to object by touch. But a third factor in the general power to guide movements is frequently affected also, there is numbness of the fingers; so that the power to combine movements in the legs, or to do so in a supplementary way by help of the eyes, or of touch, is lost altogether. This, I think, renders it plausible that there may be in the higher parts of the nervous system a tract of nerve fibres passing from the legs, fingers (tips) to the corpora quadrigemina for the general purpose of guiding movements in progression.'

"The prognosis of locomotive ataxy is bad. Patients, if they do mend for a little time, mostly go from bad to worse till they can no longer maintain themselves in the erect posture, and die cachectic. Various remedies have been tried. Electricity and nitrate of silver are favourite remedies with some, but not much confidence can be placed in them. There is this comfort, that the disease may remain stationary for many years."

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Mütter Pathological Museum of the College of Physicians.—We would invite the attention of the profession to the following circular issued a short time since by the committee having this museum in charge:—

HALL OF THE COLLEGE OF PHYSICIANS,
N. E. corner Thirteenth and Locust Sts.

The Museum Committee of the College of Physicians having in charge the Pathological Museum of the late Dr. MUTTER, desire to add to it such Anatomical and Pathological specimens of interest as are now in the hands of physicians, or such as may be met with in their practice.

The Committee, therefore, solicit donations, which in every instance should be accompanied by a history of the case, or a reference to a medical journal containing such record. All interesting specimens presented to the College will be labelled with the donor's name, and placed in the Museum for permanent preservation.

Specimens addressed to the Curator may at any time be sent to the Hall of the College of Physicians.

J. R. PAUL, M. D.,
WM. HUNT, M. D.,
S. WEIR MITCHELL, M. D., } *Committee.*
THOMAS G. MORTON, M. D., *Curator.*

PHILADELPHIA, Nov. 1865.

Philadelphia County Medical Society.—At the annual meeting, held on the 17th day of January, ult., the following officers and delegates were duly elected:—

President, Dr. William Mayburry.

Vice-Presidents, Drs. Robert Burns and William L. Knight.

Recording Secretary, Dr. Wm. B. Atkinson.

Assistant Recording Secretary, Dr. A. Y. Evans.

Corresponding Secretary, Dr. Henry St. Clair Ash.

Treasurer, Dr. Andrew Nebinger.

Censor, A. H. Fish.

Delegates to the American Medical Association.—Drs. H. St. Clair Ash, W. L. Atlee, Robert Burns, C. S. Boker, A. Cheeseman, James M Corse, David Gilbert, N. L. Hatfield, George Hamilton, Wilson Jewell, Wm. L. Knight, Jas. J. Levick, Wm. Mayburry, Andrew Nebinger, Winthrop Sargent, E. B. Shapleigh.

The delegates to the American Medical Association from the Medical Society of the State of Pennsylvania who are members of the Philadelphia County Medical Society are: Dr. L. P. Gebhard and Dr. J. Henry Smaltz.

Delegates to the Medical Society of the State of Pennsylvania.—Drs. H. St. Clair Ash, W. L. Atlee, C. S. Boker, Jno. Bell, W. H Bunn, James M. Corse, Joseph R. Coad, R. J. Dunglison, H. Y. Evans, Lewis P. Gebhard, A. W. Griffiths, Thomas Hay, A G. B. Hinkle, H. Lenox Hodge, Wilson Jewell, A. L. Kennedy, J. F. Lamb, Joseph Leidy, R. H. Lee, A. S. McMurray,

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A. Nebinger, B. Price, W. M. L. Rickards, W. Sargent, A. M. Slocum, L. S. Somers, J. H. Smaltz, J. G. Stetler, S. N. Troth, L. Turnbull, Ellerslie Wallace, Charles F. Wittig.

The following is a list of the *ex-officio* delegates from Philadelphia to the medical society of the State of Pennsylvania: Drs. W. B. Atkinson, D. Francis Condie, A. H. Fish, N. L. Hatfield, William Mayburry.

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Jefferson Medical College.—The catalogue of this school shows that the number of medical students in attendance on the lectures during the session of 1865-6 was 428.

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Harvard University.—A chair of comparative anatomy has recently been established in the Medical Department of this University, and Prof. Jeffries Wyman, one of the most accomplished and erudite anatomists in this country, has been appointed to fill it.

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Medical Journalism.—Medical journals are starting up in this country with astonishing rapidity. We have already received five new journals, viz: "The Richmond Medical Journal;" "The Savannah Journal of Medicine;" "The Medical Record," published in New York city; "The Cincinnati Journal of Medicine;" and "The Galveston Medical Journal." The announcement of five others, proposed to be published, have been sent to us, viz: "The Detroit Review of Medicine and Pharmacy;" one at Indianapolis, the title of which is not given; "The New Orleans Medical Journal;" "The Atlanta Medical Journal;" and "The Medical and Surgical Journal," (Memphis, Tenn).

Whether this is a propitious period for such a rapid multiplication of journals, or the profession are rich enough to furnish them material support, time can best determine.

Without wishing to repress the ardour of the projectors of these enterprises, we may state the fact that in the most prosperous times not more than two or three journals ever received sufficient literary or pecuniary support, and we can only express the hope that it may prove otherwise at present.

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Obituary Record.—It is with profound regret that we record the death of Lieut. Col. Richard H. Coolidge, M. D., lately one of the Medical Inspectors U S. A. and, at the time of his death, Medical Director of the Department of North Carolina. This sad event occurred at Raleigh, N. C. on the 23d of January, 1866. Dr. C. was one of the oldest surgeons of the regular army, having been in the service a period of upwards of twenty-five years. For many years he was on duty in the Surgeon General's office, during which period he compiled two large volumes of Army Medical Statistics, and a large volume entitled "Army Meteorological Register," embracing the observations made during twelve years by the medical officers at the different military posts of the United States. Those works display remarkable industry, intelligence, and judgment. By his death the service has lost one of its brightest ornaments. He was a gentleman of highly cultivated mind, a lofty sense of honour, great courtesy and modesty, amiable, charitable, and devoted to his profession and to the service. He was stationed for two years in Philadelphia, where his social qualities, his courtesy, integrity, and highly cultivated mind made warm friends of all who had the privilege of his acquaintance.

FOREIGN INTELLIGENCE.

Death from Chloroform.—Another death from chloroform has occurred: it was at St. Mary's Hospital. The patient was an apparently healthy man, and the operation was evulsion of the nail. Chloroform was administered on a handkerchief; all the proper precautions had been taken.—*Lancet*, Jan. 27, 1866.

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Extensive Employment of Chloroform.—Prof. Simpson states (*Med. Times & Gaz.*, Dec. 16, 1865) that Messrs. Duneau, Flockart & Co., of Edinburgh, now make upwards of 7,000 doses of chloroform every day, counting two drachms as a full dose, or nearly 2,500,000 doses a year.

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Etherization.—M. Velpeau has communicated to the Academy some remarks of M. Pétrequin, of Lyons, about etherization. Ether, employed by Dr. Jackson in 1846, was replaced by chloroform in 1849. Chloroform, as a chemical body, was discovered by MM. Soubeiran and Pelouze; and its physiological action was tried for the first time by M. Flourens. But, if chloroform

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acts more rapidly than ether as an anæsthetic, it is also more destructive in its effects; and consequently surgeons in the south of France never employ it. M. Buisson, in a work which received a recompense from the Academy some years ago, wrote against chloroform—an agent "wonderful and terrible," as Flourens said of it. M. Pétrequin now tells us that for fifteen years the surgeons of Lyons have employed ether only, and that they have never lost a patient. M. Velpeau hereon observed, that fatal accidents had been much more frequent abroad, and especially in England, than in France, and in the departments of France than in Paris. Much, therefore, depends upon the care with which chloroform is used. He had himself put thousands of patients under chloroform, and had never met with the slightest accident.—*Brit. Med. Journ.*, Jan. 6, 1866.

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Contractile Cells of Syphilitic Pustules.—It has been pointed out by Herr Szabadfoldy that the cells removed from syphilitic pustules exhibit peculiar movements like those of the amœba and other protozoa. In many cases the projected processes become so numerous that the cell has the appearance of being clothed with cilia. Round cells frequently became oval, and underwent many other changes of form. In some, an internal molecular movement was distinctly seen.—*Lancet*, Jan. 13, 1866.

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Inoculation of Tuberculous Matter.—M. Villemin informs the Academy of Sciences that, by means of inoculation of tuberculous matter taken from man, he has produced tubercular disease in rabbits. Softened tubercle was inserted under the skin near the ear of the rabbit; and, in the course of six or eight weeks, tubercles visible to the naked eye were found in the lungs, mesentery, intestines, etc., of the rabbit. The experiment has been successfully repeated a great number of times, and under different conditions.—*Brit. Med. Journ.*, Jan. 6, 1866.

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Influence of Water in the Production of Milk.—M. Dancel has noticed that women, when suckling, drink a great deal more than at other times. Cows, too, before they drop a calf, will be satisfied with from 12 to 20 quarts of water a day, but afterwards they require 30, 40, or 50 quarts. He notices also that cows fed in houses on dry food give a fourth or even a third less milk than when at pasture. He states, too, that cows fed upon dry sesame-cake gave very little milk until they were freely supplied with water. He concludes from all this that water has a good deal to do with the secretion of milk. —*Chemical News.*

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Production of Organisms in Closed Vessels.—Dr. Child has come to the conclusion that there is no doubt of the fact that *bacteria* can be produced in hermetically sealed vessels containing an infusion of organic matter, whether animal or vegetable, though supplied only with air which has passed through a red-hot tube, and though the infusion be thoroughly boiled. The germ of *bacterium* must therefore be either capable of resisting the boiling temperature of a fluid, or they are spontaneously generated, or they are not organisms at all. Dr. Child is convinced that they are minute vegetable forms; and says that Powell and Lealand's fiftieth digestive has already shown something like an appearance of structure in these minute *bacteria*, which leaves no doubt about their organic character.—*Quar. Journ. of Science*, July, 1865.

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Muscular Power of Insects.—M. Plateau, in a communication to the Académie des Sciences, observes that, believing the muscular power of the invertebrata has not sufficiently attracted the notice of physiologists, he has instituted a series of experiments upon insects, from which he draws these conclusions: 1. Independently of their power of flight, insects possess, in relation to their weight, enormous power, as compared with the vertebrata. Thus, while a powerful horse can only exert during some instants an amount of traction effort equivalent to about two-thirds of its own weight, the common cockchafer will exert a traction equal to fourteen times its weight. This amount of power is also considerably less than that possessed by other of the coleoptera, the most vigorous of these upon which the experiments have been yet tried being the *donacia nymphæa*, which exerts traction power equivalent to forty-two times its weight. 2 When we compare two species of insects of the same group which differ notably in weight, it is the smallest and lightest which exhibits the greatest proportionate power. 3. These results are not

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due to the muscles being relatively more voluminous in the smaller animals, but to their being endowed with a greater energy and muscular activity.—*Med. Times and Gaz.*, Jan. 13, 1866.

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Action of Light on Animal Matter.—Some novel experiments have been lately described before the Chemical Society of Paris, by M. JODIN, illustrating the action of light on vegetable matter. The author destroys the vitality of green leaves by immersing them in alcohol, or heating them to a high temperature in sealed tubes, and finds that after this the leaves still present some signs of life. In the light they are rapidly decolorized, but excluded from air and light they preserve their greenness for an indefinite time. In the course of the decoloration by solar light, he proves that oxygen was absorbed and carbonic acid evolved Under the same circumstances he finds the yellow matter in etiolated leaves to absorb oxygen. On the contrary, it is proved that etiolated leaves, in becoming green in the light, evolve oxygen, while those kept in the dark and unchanged in color absorb oxygen. The author is disposed to regard chlorophyll as a body quite distinct from the yellow colouring matter of leaves.—*Quar. Journ. of Science.*

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Cinchona Plantations in Bengal.—The last report on the cultivation of cinchona in Bengal states that during the months of July last, 14,000 cuttings were planted, a greater number than has ever been obtained at Darjeeling. The total number of plants, cuttings and seedlings amounts to 81,000 The altitude at which the plantations are situated varies from 1825 feet to 5500 feet above the sea level.—*Lancet*, Jan. 13, 1866.

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Indian Cinchona Bark.—Mr. M'IVER has analyzed the cinchona bark grown in India, and does not appear to report very favourably of its percentage of quinia. He recommends the medical profession to try the cinchonidine, an alkaloid largely present in the Indian specimens.

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Railway Surgery.—The guards of the trains on the Swedish railways are required to have a knowledge of the elements of surgery, that, in the case of accidents, they may be able to render medical assistance. An ambulance, fitted up with every requisite, forms part of each train.

Honours to Medical Men.—The Queen of Great Britain has conferred the dignity of Baronetcy upon WILLIAM FERGUSSON, the eminent surgeon of London; upon Dr. DOMINICK CORRIGAN, formerly President of the Royal College of Physicians of Ireland, and one of the most distinguished physicians of Dublin; and upon Professor JAMES Y. SIMPSON, of Edinburgh, who has well earned any distinction that may be conferred upon him.

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OBITUARY RECORD.—The Vienna journals announce the death of Professor Schuh. Whilst in perfect health, he was suddenly struck down by virulent typhus. He was buried on Christmas Eve, after an illness of only five days. The death of this highly esteemed man appears to have made a great sensation amongst his medical brethren. The *Wiener Medizinische Wochenschrift* speaks of him as "one of the best and noblest men we ever knew—a kind physician; an excellent teacher, full of learning; an indefatigable worker; a friend inspired with a love of all that is beautiful and true in art and in life; a man whose loss is irreparable, and over whose memory we shall mourn as long as we are here to mourn." Many thousand friends attended his funeral. The whole of the professors of the Medical Faculty were there, besides many professors of the other faculties. All the students of medicine, with the Hungarians in national costume, bearing torches, were present. It is mentioned as a remarkable fact, that the well-known operator, Kern, Schuh's predecessor, also died on the 22d, and was buried on the 24th of December.—*Brit. Med. Journ.*, Jan. 6, 1866.

Died, in January last, at Magdeburg, Dr. Julius von dem Fischweiler, at the advanced age of 109.

—— On the 13th Jan., at Ryde, Isle of Wight, aged 74, Sir John McGregor, K. C. B., Deputy Inspector General.

—— At Pisa, Italy, Jan. 17, aged 72, Sir John Hall, M. D., K. C. B., &c.

—— At Edinburgh, Jan. 14th, 1866, Dr. DAVID JAMES SIMPSON, eldest son of Prof. J. Y. Simpson, aged 24 years. This young physician had given the highest promise of future distinction and usefulness, and had already proved himself worthy of the name he bore. The whole profession in this country, as well as in Great Britain, will deeply sympathize with his eminent father in his very sad bereavement.

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CHOLERA.

Notes on the Pathology and Treatment of Cholera. By GEORGE JOHNSON, M. D., F. R. C. P., Professor of Medicine in King's College. (Continued from p. 40.)

The evidence of the existence of a morbid poison in the blood as the cause of cholera.—In a previous communication I stated that the presence of a morbid poison in the blood, as the essential cause of cholera, is very generally admitted. There does, however, exist some scepticism with regard to this point; and, therefore, it seems not undesirable to state briefly the chief facts and arguments which are in favour of the doctrine in question.

Now, the proofs of the existence of morbid poisons are to be found mainly in the history of the diseases to which they give rise, and in the impossibility of giving a rational interpretation of the morbid phenomena without assuming the existence of some morbific agent. Neither chemistry nor the microscope has thrown any light on the essential nature of morbid poisons. "It is the human body," as Dr. Carpenter well observes (*Human Physiology*), "which forms the appropriate testing-apparatus for morbid poisons; and even if we could always obtain them in a separate state, and could subject them to chemical analysis, we should know much less of their most important properties than we can ascertain by observations of their actions in the system; this alone affording the means of judging of their *dynamical* character, which is of far more importance than a knowledge of their chemical composition."

The hypothesis, that a poison in the blood is the cause of the gastro-intestinal symptoms of cholera, is supported by many analogous facts. For instance, vomiting and diarrhœa not unfrequently result from breathing air which is contaminated by the exhalations from decomposing animal mat-

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ter. Thus Dr. Christison states (*Treatise on Poisons*, 4th ed., p. 636) that M. Ollivier, "while visiting a cellar where old bones were stored, was seized with giddiness, nausea, tendency to vomit, and general uneasiness; and subsequently he suffered from violent colic, with profuse diarrhœa, which put on the dysenteric character, and lasted for three days."

Breathing the air of the dissecting room and the dead-house is a common cause of diarrhœa; and Mr. Simon (*Lectures on General Pathology*, p. 231) remarks upon the instructive fact that when a diarrhœa has been excited by dissecting animals whose flesh has a peculiar odour, this odour may sometimes be detected in the evacuations of the patient. Some years since, I was present while a medical friend examined the dead body of a patient who had died of cancer of the bladder and bowel. The stench was singularly strong. Within a few hours, my friend was seized with diarrhœa; and he noticed that his stools had the strong and peculiar odour which had pervaded the room when the body was being examined. In such cases as this we have conclusive evidence that fetid gases may pass, with the inspired air, through the lungs into the blood, and thence be eliminated through the bowels. Can it be beneficial to prevent or retard that process of elimination?

It has been proved by experiments on animals, that many of the symptoms of cholera may result from the injection of putrid matters into the blood. Mr. Henry Lee, in his *Pathological and Surgical Observations*, describes several experiments of the kind which were followed by vomiting, diarrhœa, difficult breathing, great prostration, and death.

The remarkable arrest of blood in the branches of the pulmonary artery, which I have shown to be the essential cause of choleraic collapse, has its exact analogy in the arrest which is caused by the injection of certain salts into the blood, or by the admission of atmospheric air into the veins.

Evidence of blood-poisoning in cholera may be derived from a consideration of the *symptoms of invasion*, as they have been called. The pathological theories which have unhappily prevailed in this country have led to an undue regard being paid to diarrhœa as a premonitory symptom of cholera, and to an almost entire disregard of other symptoms, to which the Indian practitioners attach great importance. The symptoms in question are those indicative of general discomfort and derangement of function, particularly affecting the nervous system. Twining says (*op. cit.*, p. 9): "Prior to the more distinct and alarming attack, there are sometimes for a few hours, and in some cases for two or three days, symptoms of indisposition, evident not only to the patient himself, but to his friends. When cholera is raging severely, the disease is often ushered in by diarrhœa; at other times, it begins with catarrh, nausea, and oppression at the scrobiculus cordis, which are not in an early stage to be distinguished from the slight indisposition which often precedes fever. The approach of cholera in this manner makes the patient suppose he is feverish or bilious; and *if recourse be had to some of the medicines commonly used in slight ailments of that sort, the disease is said to be caused by the dose of medicine taken, when, in fact, it had been insidiously making progress for some hours.*" In this country, it has not unfrequently been asserted that an attack of cholera has been caused by the operation of a rhubarb pill or a dose of castor oil. I can give a parallel to this *post hoc ergo propter hoc* argument. Some years since, when I was seeing out-patients at the hospital, a woman brought a child who was suffering from febrile symptoms, and for whom I prescribed a mixture containing nitrate of potash. Two days afterwards the mother returned, and said in a complaining tone, "Your medicine has brought out the smallpox." Truly the smallpox had come out; but certainly it was in the blood before it came into the skin. So, when symptoms of cholera follow speedily on the action of an aperient, the morbid poison was before in the blood, and probably caused the feeling of derangement for which the dose was taken. It is as probable that smallpox might result from rubbing croton oil on the skin, as that a specific disease like cholera would be caused by a purgative.

Annesley gives an extract from the letter of "a zealous and intelligent medical officer," who strongly insists on the great practical importance of studying the initiatory symptoms of cholera. Referring to the purging, vomiting, and spasms, his correspondent says: "I am so thoroughly convinced that these symptoms are *only* secondary, that, were the following marks

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present, I should not hesitate to pronounce the case one of epidemic cholera. As the patient is approached, an appearance of overpowering lassitude is at once perceived, with a pallid, anxious, and sorrowful cast of countenance; and, in more advanced stages, the countenance is dejected and sunk." He then refers to a case in which he observed this peculiar expression of countenance; and, feeling confident that cholera was impending, he kept a close watch upon the man. After an interval of nine hours, vomiting, purging, and cramps set in.

Bell and Orton (*op. cit.*) describe the initiatory symptoms of cholera in much the same terms as Annesley; and Dr. Paine, whose experience of the disease was obtained in New York, says: "Diarrhœa and vomiting do not always distinguish the premonitory stage; but it is sometimes denoted only by headache, loss of appetite, oppression at the chest, etc.; and, again, spasms are known to have been the earliest symptom, and at first the only prominent one." These symptoms of general derangement, which often attend the invasion of cholera, appear to be strictly analogous to those which mark the commencement of other undoubted zymotic blood diseases.

Again, Orton and others of the Indian authors have remarked on the striking resemblance between the symptoms of cholera and those which result from the bite of a snake or other venomous animal. The venom of these animals unquestionably enters the blood, and thus often destroys life. So, it is probable, does the cholera poison enter the blood.

Another fact, which is almost certainly indicative of a morbid condition of blood in cholera, is the frequent occurrence of albuminuria during the progress of the disease. This symptom, in connection with cholera, cannot, I think, be the result of a merely passive congestion of the kidney. Much more probably it is due to an active congestion excited by a morbid quality of blood.

One of the most conclusive arguments in favour of the doctrine that a morbid poison in the blood is the essential cause of cholera, is based upon the fact that the worst symptoms of collapse have often been observed to follow immediately upon the arrest of the vomiting and purging by opiates and astringents. The first case which painfully convinced me of the fatal mischief which may result from the treatment of diarrhœa by opium, occurred during the cholera epidemic of 1849. A woman, about forty years of age, was seized with the usual symptoms of choleraic diarrhœa—vomiting, purging, and cramps. She had not a symptom of collapse. The countenance was natural, the skin warm, the pulse good. I gave her five grains of Dover's powder every hour until three doses had been taken. When I saw her again, in about three hours from the time of my first visit, the vomiting, purging, and cramps had ceased; and she was in full collapse, from which she never rallied. This case gave a terrible shock to my belief that collapse is a consequence of loss of fluid, and that it is to be prevented by arresting the vomiting and purging which usually precede and accompany the symptoms of collapse. I saw no way of escape from the painful conviction, that my patient's condition had been made fearfully worse by my well-intended but mischievous interference. Since that time I have had frequent opportunities of ascertaining from the published reports of cases, and from what I have seen in the practice of others, that the immediate occurrence of profound collapse is a not uncommon result of the sudden arrest of the vomiting and purging by opium. The salutary and curative efforts of Nature, the vomiting and purging, by which the morbid poison is being eliminated, are thus arrested; the poison then accumulates in the blood; the flow of blood through the lungs becomes obstructed; and the state of collapse is established.

MM. Briquet and Mignot have published some instructive particulars of the results obtained by them in the treatment of diarrhœa by opium. (*Op. cit*, p. 514.) Their practice was to prescribe rest, rice-diet, and from fifteen to thirty drops of "laudanum of Sydenham;" the dose to be repeated in an hour, and to be followed by opiate enemata, if necessary. In obstinate cases, they gave altogether as much as from eighty to a hundred drops of laudanum. The result of this practice was, that, out of 200 patients who came under treatment at the commencement of the attack ("dès le début des premiers accidents") no fewer that twenty-six, that is, 13 per cent., passed into collapse. This, I have good reasons to believe, is a far larger proportion of cases of collapse than would ordinarily occur if choleraic diarrhœa were allowed to take its own course and

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terminate, as it tends to do, in spontaneous recovery. Those who advocate the use of opiates and astringents in the treatment of choleraic diarrhœa appear to forget that there is such a result as spontaneous recovery. and they claim the credit of a cure in every case of diarrhœa so treated which does not pass on to collapse. During the last epidemic of cholera (in 1854,) the late Mr. Wakefield stated, in a letter to the *Times*, that in a large number of cases of diarrhœa occurring amongst the prisoners at Cold Bath Fields, the only medicines which he gave were carbonate of soda and mint-tea; and not a single case passed into collapse. It can scarcely be supposed that this plan of treatment had any other effect than to dilute the contents of the bowel, and so to assist their speedy expulsion—a mode of operation entirely different from that of opium and astringents.

Mr. French states, with reference to the treatment of diarrhœa (*The Nature of Cholera Investigated*, 2d ed., 1854, p. 75): "I am satisfied from much experience, that cases of epidemic diarrhœa generally subside speedily under the use of the simplest possible remedies which are wholly free from astringent properties." In this statement I entirely concur.

But it may be asked how it could happen, if there be a morbid poison in the blood the escape of which it is dangerous to arrest by opium, that so large a proportion as nearly seven-eighths of MM. Briquet and Mignot's patients escaped without more serious consequences? Ought not the whole number thus treated by opium to have passed into a state of collapse? To these questions it may be replied that, happily for the patients, in a large proportion of cases, the diarrhœa continues, in spite of repeated doses of opium, for a period varying from a few hours to several days; and, in such cases, it is reasonable to suppose, that the curative efforts of Nature succeed in eliminating the morbid poison from the blood, notwithstanding the opposing influence of the drug.

During the last epidemic of cholera, I saw several cases in which a diarrhœa had for some days gone on, in spite of large and repeated doses of opium and astringents. In each of these cases, the diarrhœa quickly ceased after the exhibition of one or two doses of castor oil. And it is evident that the experience of MM. Briquet and Mignot was in perfect agreement with this; for they state that if, in spite of the energetic employment of opium, the diarrhœa continues for a period of two days, opium is then of no avail; and they have found in such cases that an emetic of ipecacuanha has immediately put a stop to the disease. It is probable that a diarrhœa which thus continues for several days while opiates are being given, and which is so speedily arrested by an emetic or a purgative, is due, not to the continued presence of a morbid poison in the blood, but rather to the local irritation of the mucous membrane of the digestive canal by the morbid secretion which has been poured into it, and the complete escape of which has been retarded by the opium.

The peculiar character of the intestinal discharges in cholera affords some evidence of blood poisoning.

Boehm (*Die Kranke Darmschleimhaut in der Asiatischen Cholera*, 1838) was the first to publish the fact, that the secretions discharged during life, and those which are found in the bowels after death, contain a large amount of epithelium.

The flocculi in the rice-water stools consist almost entirely of perfectly organized epithelial cells, most of them of large size. Of this fact, I have satisfied myself by repeated examinations of the discharges from different patients. The peculiar creamy viscid secretion, which sometimes nearly fills the small intestines after death, is also almost entirely made up of the same fully formed epithelium. Now, it is obvious that this large amount of epithelium cannot be explained by the peeling away of one or two layers of cells from the surface of the mucous membrane—the result of a local irritation during life, or of maceration by the fluid contents of the bowel after death. This abundant cell formation can result only from a very active vital effort. And if the object of that cell-growth be not to withdraw from the blood some morbid products —some constituents of the blood or of the tissues which have been damaged by the morbid poison—it is difficult to suggest any explanation of the phenomena.

The desquamation of the skin and of the uriniferous tubes of the kidney, under the influence of the poison of scarlatina, is probably analogous to this intestinal desquamation in cholera. In both cases, it is probable that a poison in the blood is the immediate cause of the process.

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The very peculiar odour of the rice-water stools—so entirely unlike any other odour, that it alone would suffice for the diagnosis of cholera—shows that the stools contain some new material, or that some constituent of the body has undergone a peculiar morbid change.

It is nearly certain that the intestinal discharges contain a morbid poison by means of which the disease may be communicated to others. So that, as Dr. William Budd has suggested (*Association Journal*, 1854), a single case of cholera may, through the sewers, infect a whole district.

The facts and arguments here adduced are sufficient to warrant the inference that a morbid poison in the blood is the essential cause of cholera. The poison excites the gastro-intestinal symptoms, the vomiting and purging; by means of which the poison and its products are eliminated. And, in the worst cases, the same poison excites contraction of the muscular walls of the pulmonary artery, and then the condition of collapse occurs. During an epidemic of cholera, there occur many cases of choleraic diarrhœa which never pass into collapse. It is probable that both classes of cases are of essentially the same character; the same morbid poison is the cause of both; and the transition from choleraic diarrhœa with bilious stools to choleraic collapse with rice-water stools takes place by almost imperceptible gradations in different cases. The transition back again from the state of collapse to that of bilious diarrhœa occurs when the morbid condition of the blood is so far lessened that the circulation through the pulmonary vessels again becomes free. The stage of reaction is then established; and this is sometimes followed by fever, with engorgement of the lungs and a scanty secretion, or even complete suppression, of urine, which is often fatal.—*Brit. Med Journ*, Nov 18, 1865.

(*To be concluded in next number.*)

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The Progress of Cholera.—With the advancing year, cholera is beginning to show signs of greater activity on the Continent. The disease was still prevalent in the southwestern provinces of Russia (in Europe), in some parts of Saxony, upon the Bavarian frontiers, and it had not ceased in Paris, when 1865 came to a close. In the course of December, also cholera appeared in two localities of the Department of the Vosges, Eastern France—namely, in Raon l'Etape and Rambervilliers. Caen and Brest amongst the western departments were attacked the same month. The disease lingered in Paris throughout the greater part of January of the present year; between the 26th December and 24th January it caused 173 deaths in Caen; and it prevailed in Brest through the past and previous month, causing close upon 600 deaths.

At the present moment cholera has not ceased in the suburbs of Brest, and it is spreading in various districts of the Departments of Finisterre, Morbihan, and Côtes du Nord. From Saxony there is no recent news of the disease; but it still exists, and extends slowly, in the southwestern provinces of Russia.

It is thus seen that foci of the pestilence remain in Eastern and Western, and not improbably also in Central Europe. The recent activity of the malady in the western departments of France indicates the probability of its resuming a migratory course as the year rolls on, and the necessity of a careful watch being kept on its progress.

In the more recent extensions of the disease, although it may have shown itself over a wide area, and been as fatal as heretofore, the number of persons attacked has been comparatively small.—*Lancet*, March 3, 1866.

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Health of Paris.—It is asserted in the *Revue de Thérapeutique* of March 1, that the cholera has entirely disappeared from Paris, but that it is replaced by eruptive fevers and variola.

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Cholera at Brest.—The *Ocean*, of Brest, of February 12th, states the deaths from cholera during the five preceding days amounted to 46, including 13 in the hospitals. The epidemic has nearly ceased within the walls of the town, the deaths having diminished from seven to three or four per day, almost all outside the walls.

—

President's Address in the Public Health Department of the Social Science Association.—[The following extract from the highly instructive address of Dr. Edwin Lankester, delivered at Sheffield, in October last, possesses unusual interest at the present time, when the advent of the Asiatic pestilence is so generally apprehended,

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and it is therefore of such extreme importance that the causes and mode of propagation of contagious diseases should be thoroughly investigated.]

"The Sciences are bound together by indissoluble links. Man separates them through his feebleness and for his convenience; but there is reason to believe that, analyzing all the facts and phenomena of the external world, there is underlying one great force, one primal mover, out of which, with unvarying precision, the great phenomena of the universe proceed. Recent researches have shown that heat itself is but a mode of motion; that heat at certain temperatures becomes light. Light, in its turn, as we see in the photographic art, becomes the source of chemical change. Chemical force becomes galvanism; galvanism is converted into magnetism. Motion generates electricity. Galvanism and magnetism produce heat, light, electricity, motion. This demonstration of physical forces is regarded by some philosophers as complete, while others have gone yet a step further. It is but as the heat and light of the sun are poured down upon the earth that plants live. The rays of the sun become more direct, the heat and the light become chemical force in the plant, and now in its secret cells fresh energy is felt, and all the phenomena of plant-life are manifest. The rays are now withdrawn, the heat and life diminish, chemical change ceases, the plant-life grows sluggish. Some plants die, the majority drop their leaves, and our winter is characterized by a dormant vegetation. Here we have a correlation of physical and vital forces; but the correlation does not stop here. During the life of the plant there has been deposited sugar, and starch, and gluten, in its roots, its stem, its leaves and seeds. These are the food of animals. Withdraw this food, and they die. The chemistry of the sun has formed the starch, the sugar, and the gluten. This chemistry is undone in the animal; it becomes heat—animal heat; it becomes motion—muscular force in the muscles, and that most refined of all motions, nerve-force, by which the spiritual consciousness of man becomes cognizant of sensations, accumulates ideas, reasons, and becomes an intelligent, conscious, and responsible being.

"It is here, I think, that we get a glimpse of a real connection of the sciences; of a dependence of one upon the other; and of such a connection between the most recondite and the most practical departments of Social Science, and the most elementary inquiries of the physical philosopher, as clearly demonstrates the claim of this Association to the position of a scientific body, and clearly points out the road it must follow, in order to achieve for man the highest triumphs of his intellect in unravelling the deepest secrets of his existence.

"But now let us inquire what is the position that the Department of Public Health should take amongst the branches of Social Science. At first sight, it is very evident that there is no sharply defined line between our various departments, and that each contemplates facts and principles which are, more or less, common to all. At the same time, our consciousness of health and sickness is one of the most common facts of our existence; and we have no records of communities of men who are not cognizant of disease as opposed to health, and who do not employ some measures, whether efficacious or not, for the prevention of disease. Our Department, then, contemplates the laws of health and disease, with the object of applying that knowledge to the prevention of the latter.

"Herein hygiene differs from medicine—the first prevents, the latter cures. Or, if you like to enlarge the meaning of the term medicine, our department may be otherwise called that of preventive medicine. Our inquiries, then, must be more particularly carried on by the aid of the sciences of physiology, which contemplates the laws of life; and, in so far as physiology is connected with the science of chemistry, and with the various branches of experimental and physical science, we must call them to our aid.

"Our object being the discovery of the causes of disease and death, and the means of so averting and altering these causes as to prevent these calamities, it becomes essential to us that we should classify our facts, so as to present them in a simple and comprehensible form. Now the great factors of our life are air, water, food, and heat. To one or other of the relations of these agents to our life, can we refer all the varied questions with which we have to deal.

"There is no animal existence without air. The humblest monad needs for its existence a supply of oxygen gas. It moves

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and lives but as that oxygen produces chemical changes in its interior. The law is universal. Man is but an aggregation of monads. Each busy cell, of which his body is composed, contributes to the aggregate of his life, only as it is acted upon by the oxygen of the air. This fact lies at the foundation of a hundred branches of our inquiry. It is the necessity for this oxygenation of our tissues that gives all the importance to our inquiries into the ventilation of houses and workshops, of cowsheds and stables—in fact, of any place where living breathing beings are inclosed. It is this fact which lies at the foundation of all our anxiety about the overcrowding of our dwelling-houses, factories, and shops. By the aid of this great primal fact, we explain the unnecessary disease and death from scrofula and consumption; and by rendering it more and more a first principle of human action, we hope to save the lives of thousands of our fellow-creatures. These inquiries result from the one single fact that man requires oxygen, which he obtains from the air. But the air in which he lives not only supplies him with oxygen, but it is the great repository of all that is exhaled from the earth, and it comes to him and to the lower animals, burdened—alas! too often fatally burdened—with poisons; chemical agents that, swiftly coursing through his blood, work their destructive action on his frame, and either damage the functions of his life or destroy his existence altogether. All the great questions that gather round us of epidemic or endemic, miasmatic and contagious diseases, will find their appropriate place in our inquiries into the nature of impure and poisoned air.

"Water is another factor of organic life. Without water, no chemical change can take place in a living body. A large number of animals have their existence determined by water. Water enters into the composition of all organic beings. A man weighing 154 pounds contains 111 pounds of water in his tissues. The oxygen that vitalizes his tissues is conveyed by water. The starch, the fat, the protein, necessary to the existence of animals, are all digested, absorbed, and conveyed to the tissues by water. These substances, through whose chemical change life is possible, are decomposed in the presence of water, and the products of this decomposition are carried off by the agency of water. All the higher animals drink water for this very purpose, and the adult human being, on an average, in one form or another, drinks from 70 to 80 ounces of water a day. Water is the most potent of chemical agents; its solvent power is equal to that of aqua fortis or oil of vitriol, and it associates itself in nature with a vast variety of compounds with which it comes into contact in the external world. It dissolves both organic and inorganic matters; hence it may become so contaminated as to be unfitted for the purposes of life. From the inorganic world it may take up the salts of lime, iron, lead, and other compounds, in such quantities that when taken into the human body it is not only unfit for healthy life, but it may become the source of immediate disease or death. Like the air, it may become the medium of introducing those definite organic poisons, which, kindling similar poisons in the living system, are at once the source of disease to others and the death of the individual suffering from their action. Hence our inquiries embrace the means of supplying to every individual a sufficient quantity of pure water for his healthy existence.

"But water has other than this fundamental relation to the life of man. Man is a washing, cooking, and manufacturing animal; and wherever water is used in these relations so as to affect his health, the question raised is one that belongs to the department of public health.

"As the animal organism cannot live in air and water, but requires varied compounds of carbon, oxygen, hydrogen, and nitrogen for its existence, the whole question of the relation of the compounds of these elements used as food, becomes the subject of our inquiries. Here our researches are based especially on chemical facts, and we must take for our guides Mülder and Liebig, and the great school of chemical physiologists. The freshest air and the purest water will be no protection from disease and death, unless the human system is supplied in its food with the elements necessary for the play of those chemical forces which result in life. Not only must there be food supplying the materials of combustion and nutrition, but each tissue is built up and constituted in its own peculiar way. The blood must be supplied with chloride of sodium and with iron; the bones with phosphate, carbonate, and fluate of

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lime; the muscles with potash; the bile with sulphur; the saliva with cyanogen; the teeth, hair, and nails with silica. A diet deficient in all these materials may be the source of disease. Our navy were formerly decimated for want of fresh vegetables. Our army was starved on an excessive diet of salt beef. Our children die if fed alone on arrowroot and corn-flour. Those who inhale abundance of fresh air, and have access to infinite stores of pure water, nevertheless fall easy victims to diseases which result from the redundance or deficiency of the compounds which in natural quantities constitute the source of their daily life. The inquiry as to what constitutes the best food for man in all the various conditions of his life is one yet in its infancy, and it is perhaps a question as to whether the entire ignorance of a great portion of the community on this point is a greater evil than the arrogance with which pseudo-scientific teachers pretend to instruct the public as to what they should 'eat, drink, and avoid.' In the absence of all consciousness that he knows, man, like the lower animals, is guided by an instinct which is sufficient to preserve and increase his race; but with knowledge comes this danger (which in all cases must be risked), the danger of hasty generalization. In this frail bark, how many of our race have perished before gaining a firm footing on the truths of well established science! This is the reproach which the student must patiently bear from the crowd, whilst he is seeking some higher guide than that which they possess in common with the brutes that perish.

"Nor ought we to forget in our department, as a question of food, the remarkable tendency of man to partake of nervous stimulants. The extent to which substances may be taken with impunity that address the nervous system, is a question that is occupying the attention of some of our most distinguished physiologists; and, whilst at the present moment science cannot be said to have pronounced on the question, there is no doubt of the fact, that one of the most terrible scourges of the human race is the tendency to indulge to excess in drinking alcoholic beverages. The vices of tobacco-smoking, chewing, and snuffing, with opium and hemp eating, exert but little evil as compared with the terrible vice of drunkenness. There are many here who will feel that the interdiction of these beverages is not the sound conclusion of social science; but all must acknowledge, in a scientific point of view, the value of the large body of facts which have been presented us by total abstainers from alcohol, who have thus demonstrated that the consumption of these fermented liquors is not necessary for the maintenance of health or strength.

"Air, water, and food, are necessary to the naked savage. Not in this climate could civilization advance, without provision for the artificial maintenance of heat. At the temperature of 32°, water becomes solid, and is no longer capable of maintaining life. In those regions of the world where the temperature never rises above this, there is no life. At much higher temperatures, only plants and animals of the lowest types and feeblest vital powers exist. It is not till we ascend the animal scale, and arrive at birds and mammalia, that we find animals constructed to maintain their own temperature, and thus become independent of external sources of heat. This animal heat is maintained by the combination of the carbon of the food in contact with oxygen, and animals living in low temperatures maintain their heat by large supplies of food. Their whole existence is absorbed in seeking food, to maintain their heat against the cooling influence of the external atmosphere. Withhold food, and they perish. So with man; unclothed he barely exists; but he clothes himself with skins, and builds himself houses. He economizes his heat, he consumes less food, his skins are changed for cotton, linen, and fibrous fabrics; his huts for houses, mansions, and palaces; and in this relation of his vital functions to that mode of motion we call heat, we see one of the great causes of his civilization. No questions that can come before our department can have a higher or more commanding interest, than this one of heat. Look at the thermometer on your garden wall at this season of the year. Night after night it falls lower, and as it falls degree after degree, the rates of mortality rise. A cold day in winter is the death-knell of thousands. We know this. It is law. Can we not avert this disaster? Must our intelligence be brought up at this point, and man be told that although he has, by clothing, and by warming his dwelling-place, successfully resisted the cold

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that must have made him a savage, he can go no farther? I do not believe it. Here is a great question for us to discuss and look into—how we can best save the life which is every year destroyed in our climate by cold.

"But high temperature has its perils, though not perhaps so great as low. Diarrhœa, in the summer of our country, is the representative of the chest-affections of the winter; and, I believe, is more under the control of the application of known laws for its removal, than the latter diseases. We must then study the laws of heat in relation to the life of man, in order to be able so to construct and warm our houses, and arrange our clothing, as to secure immunity from temperatures destructive of health and life.

"I might have prolonged this sketch of the fundamental principles and objects of the Department of Public Health; but I am anxious to dwell a little more at length on some occurrences which, at the present moment, have assumed a gravity that, in point of interest, throws a shade over all other questions. I allude to the presence of cholera on the continent of Europe, and to the extensive prevalence of the Siberian cattle-plague in England. In anticipation of the one plague, and in the actual presence of the other, there is enough to excite the keenest interest of the most apathetic, and to induce the most anxious inquiries as to the causes of these diseases, and the best means of arresting their progress."

(To be continued.)

CLINICS.

HOSPITAL NOTES AND GLEANINGS.

Iodoform; Its Use in some Cases of Cancer of the Uterus.—During a recent visit to the obstetric wards of St. Bartholomew's Hospital, we observed some patients affected with epithelioma of the cervix uteri who were being treated with iodoform. Dr. Greenhalgh informed us that he owed the suggestion of this remedy to Dr. Eastlake, and that he had already employed it in about forty cases. Uncertain as to the strength of this remedy, he had commenced its administration in doses of a quarter-grain; but he had found that a much larger quantity could be certainly taken with impunity, and, he thought, with advantage. Latterly he had been giving from three to five grains, made up with bread in a pill, two or three times daily. The cases most suitable for its employment are those where pain is a prominent symptom, and where there is a deposit. In cancer he had reason to think that not only was the pain much mitigated by its use, but the progress of the disease was actually checked. In a case of rheumatic gout, with large deposits about the knuckles, its effects had been very marked. Pain had been subdued, and the deposits in the joints had gradually disappeared. Iodoform, we learn, is also useful as a deodorant. In cancer of the cervix, where there is a very fetid discharge, it is employed with advantage as a pessary in the proportion of one grain to a scruple of cocoa-butter. A larger quantity than this is apt to be irritating; but used in this strength, the material has a remarkable effect in conquering the terrible fetor which is so distressing in this disease. Iodoform is unhappily not a pleasant substance. It possesses a powerful odour of peculiar kind, which some one described by the term "concentrated seaside." Notwithstanding this disadvantage, the patients did not complain of any unpleasant effects. In only one case did it produce sickness, and that speedily subsided. Iodoform was discovered, Dr. Eastlake tells us, by Scrullus in 1824, and is produced by the action of iodine and alkalies or alkaline carbonates on wood spirits, alcohol, or ether. It will be seen that Mr. Nunn's experience of its internal use in cancer is not so favourable as that of Dr. Greenhalgh. It is evident, indeed, that we require a very much more extensive trial of the drug before we shall be entitled to form any strong opinion as to its merits. But the facts already noted are at least interesting, and suggest further observation.—*Lancet*, Feb. 24, 1866.

Iodoform; Its Use in some Cases of Cancer, Syphilis, and Neuralgia.—At the suggestion of Dr. Eastlake and Dr. Greenhalgh, Mr. NUNN has administered iodoform in a series of cases in Middlesex Hospital, as a sedative in cancer. In the majority of cases, the patients had become accustomed to the use of morphia; in estimating, therefore, the advantage of the drug, that fact has to be borne in mind. Mr. Nunn states his belief to be that, as a sedative, when given internally, iodoform is very uncertain, if not powerless; applied externally it

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alleviates pain. He has found, however, in obstinate syphilitic ulcerations, reason to hope that iodoform may prove a valuable remedy. The usual dose was one grain in a pill; in one or two cases five grains were given, without better result as regards relief of pain, and with the disadvantage of producing nausea and sickness.—*Ibid.*

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

University of Pennsylvania—Auxiliary Faculty of Medicine.—We invite attention to the following announcement, from which it will be seen that the course of instruction will commence on the first Monday of the present month: Harrison Allen, M. D., Professor of Zoology and Comparative Anatomy.

Horatio C. Wood, Jr., M. D., Professor of Botany.

F. V. Hayden, M. D., Professor of Mineralogy and Geology.

Henry Hartshorne, M. D., Professor of Hygiene.

John J. Reese, M. D., Professor of Medical Jurisprudence, including Toxicology.

The branches of Natural History forming the subjects of the three Professorships first named will be taught mainly in reference to their medical relations.

All students who have matriculated in the Medical Department, and have taken the tickets of two of the Medical Faculty, have the right of admission to the lectures. Attendance upon these lectures is not compulsory upon the students in the Medical Department.

The several courses will consist of at least thirty-four lectures, to be delivered, at hours fixed by the Faculty, three times a week during the months of April, May, and June, commencing on the first Monday in April, and ending on the last Saturday in June.

A Diploma from the University will be granted to those medical graduates, who, after attendance on a course of the lectures, shall undergo a satisfactory examination by the Faculty.

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Jefferson Medical College; Summer Course of Lectures.—This school has instituted a summer course of lectures, which it is announced will begin on Monday, April 2, 1866, and continue, with a recess in July and August, until the 6th of October.

The Clinical department of the Course will be illustrated at the College, the Wills Hospital, and the Philadelphia Hospital, by the members of the Faculty during their terms of Service at these Institutions.

The Courses will be of an entirely practical character, embracing important specialties in Medicine and Surgery, with extensive Clinical Illustrations.

The Lectureships are constituted as follows:—

Clinical Surgery, Profs. Gross and Pancoast.

Clinical Obstetrics, Prof. Wallace.

Pathology, Prof. Dickson.

Hygiene and Meteorology, Prof. Rand.

Materia Medica and Therapeutics, Prof. Biddle.

Clinical Medicine, Dr. DaCosta.

Visceral and Surgical Anatomy, Dr. W. H. Pancoast.

Operative and Minor Surgery, Dr. S. W. Gross.

Physiology, Dr. J. Aitken Meigs.

Ophthalmic Surgery, Dr. R. J. Levis.

Venereal Diseases, Dr. F. F. Maury.

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Medical Instruction in Philadelphia during the Summer.—The most ample opportunities are afforded in Philadelphia, to medical students for obtaining instruction during the summer season. In addition to the courses given in the University of Pennsylvania and Jefferson Medical College, a number of private schools are engaged in teaching.

"The Summer School of Medicine," commenced its second term March 1st, 1866; in which instruction is given in Anatomy, Surgery, Chemistry, Physiology, Obstetrics, Materia Medica, and Practice of Medicine, by Drs. Boling, Hutchinson, Hodge, Smith, Cheston, and Williams.

The subjects are studied by the aid of specimens, manikins, demonstrations, and clinical examinations of patients.

Students are given access to the Pennsylvania, Episcopal, and Children's Hospitals. The employment of the microscope, and the microscopic appearance of the tissues and fluids in health and disease, with the chemical tests and reactions, will also be taught.

Dr H. Lenox Hodge will give a course of lectures on Surgical Diagnosis.

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The history, causes, symptoms, and pathology of surgical diseases and injuries will be carefully studied, and the means of recognizing and healing such disorders distinctly taught.

Instruction will be given in the use of the microscope, ophthalmoscope, otoscope, laryngoscope, endoscope, and other specula; in percussion and auscultation, and other means now employed for physical examination.

Various other associations of medical men are engaged in medical teaching, which we regret not being able to particularly notice, as their announcements have not been sent us.

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University of Pennsylvania.—The class attending the medical lectures during the session 1865–6 was 520, and at the annual commencement held on the 14th of March, 1866, the degree of M. D. was conferred on 165 candidates.

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Jefferson Medical College, Philadelphia.—At the annual commencement, held on the 10th of March, the degree of M. D. was conferred on 165 candidates.

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Massachusetts Medical College; Harvard University.—At the annual commencement, held on the 7th of March, the degree of M. D. was conferred on 69 candidates.

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Medical Department of Columbia College—College of Physicians and Surgeons, New York.—At the 59th annual commencement held on the 9th of March, the degree of M. D. was conferred on 112 candidates.

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Medical Department of the University of the City of New York.—At the annual commencement held on the 2d of March, the degree of M. D. was conferred on 78 candidates.

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Bellevue Hospital Medical College.—At the fifth annual commencement, held on the 24th of February, the degree of M. D. was conferred on 172 graduates.

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Yale College.—At the commencement in January last, the degree of M. D. was conferred on 12 candidates.

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Rush Medical College.—The number of students during the session of 1865–6 was 293, and at the commencement on the 1st of January, the degree of M. D. was conferred on 90 candidates.

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Chicago Medical College.—At the commencement on the 1st of March, the degree of M. D. was conferred on 22 candidates.

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University of Buffalo.—At the annual commencement of the Medical Department of this University, held on the 20th of Feb., the degree of M. D. was conferred on forty candidates.

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American Medical Association.—The seventeenth annual meeting of this Association will be held in the city of Baltimore, Md., on Tuesday, May 1, 1866.

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Mutter Lectureship.—The second course of lectures will be delivered by Dr. J. H. Packard, commencing on Tuesday evening, April 3d, and continued on every Tuesday and Friday evenings until completed. The subject will be fractures of the bones of the upper extremity, and the course will consist of ten lectures.

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Medical Department of Soule University, Chappell Hill, Texas.—We find in *The Southern Intelligencer*, a paper published in the city of Austin, Texas (Feb. 15, 1866), the announcement of the first course of Lectures in this School.

The faculty consists of:—

J. Boring, M. D., President; N. N. Allen, M. D, Prof. Surgery; Robert Fluellen, M.D., Prof. Anatomy; W. H. Gantt, M. D., Prof. Physiol. and Path. Anat.; John L. Watkins, M. D., Prof. Theor. and Pract. Med.; J. Boring, M. D., Prof. Obstet. and Dis. Women and Children; John H. Webb, M. D., Prof. Mat. Med. and Therap.; W. B. Trainham, M. D., Prof. Chemistry and Med. Jurisp.

The course is announced to commence on the first Monday in Nov. last, and continue until the last Wednesday in April.

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Boylston Prizes.—The Boylston Medical Society of Harvard University have awarded the first prize of forty dollars for an essay on "Reflex Paralysis" to Dr. Jas. F. A. Adams; and the second prize of twenty dollars for an essay on "Epidemic Cholera," to Dr. Chas. P. Kemp.

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New Medical Journals.—In our preceding number we noticed ten new medical journals, and we have now to add three more to that list. The first is *The Medical Reporter*, a neatly printed octavo of 24 pages, issued on the 1st of March, at St. Louis, Mo., under the editorship of Dr. J. S. B. Alleyne and O. F. Potter. It is to be published semi-monthly, at three dollars per annum *in advance*. The second is *The Southern Journal of the Medical Sciences*, the initial number of which is to be issued on the 1st of May. It is to appear quarterly, each number to contain 200 pages; the subscription is eight dollars a year; and is to be edited by Drs. E. D. Fenner, D Warren Brickel, and C. Beard. The third is the *New York Lancet*, a *family* medical journal, published bi-monthly at two dollars a year.

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Obituary Record.—Died, at Augusta, Me., of softening of the brain, aged 50, William B. Herrick, M. D., formerly one of the Professors in Rush Medical College.

—— At Troy, N. Y., Jan. 7, 1866, aged 71 years, Thomas W. Blatchford, M. D Dr. B. was a gentleman of highly cultivated mind, zealous for the advancement of our science, and highly respected for his moral worth as well as for his skill as a practitioner.

FOREIGN INTELLIGENCE.

Kerosolene as a Local Anæsthetic.—A few days ago, Sir James Y. Simpson operated in the Edinburgh Infirmary on a case of vesico-vaginal fistula: and for the purpose of producing local anæsthesia he applied, before making the incisions and stitches, the vapour of kerosolene by a spray douche. Afterwards, he applied the spray of kerosolene to the hands, arms, etc., of several students, and showed, that, by its influence, the douched part could be frozen in a very few seconds. To obtain the full effect of the kerosolene—which is one of the cheapest of medicinal agents—it requires to be pure. In various minor operative procedures Sir J. Y. Simpson has used local anæsthesia of late with varying amounts of success, employing vapour of sulphuric ether according to Dr. Richardson's ingenious method. He believes that a larger apparatus, provided with several jets, like a watering pan, would be sufficient as an anæsthetic in many smaller operations. As local anæsthetics he has employed the vapour of oxide of amyl (eupion), nitrous ether, the lighter hydrocarburets from the distillation of paraffine oil, chlorocarbon, hydrochloric ether, etc. Some years ago (see *Medical Times and Gazette* for January 22, 1859, page 79) he suggested, in our columns, solid carbonic acid for producing the same effect, observing that it had always seemed to him that solid carbonic acid, applied in a caoutchouc bag or otherwise, alone or mixed with ether, would probably be found the most convenient and best freezing agent for producing local anæsthesia in the practice alike of the surgeon, dentist, and accoucheur.—*Med. Times & Gaz.*, Mar. 3, 1866.

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Scientific Report on the Trichina.—The Prussian Government had intrusted investigations on the nature and mode of propagation of the trichina to Professor Kühne, of Halle, and zealously were they pursued from 1863 to 1865. The report has been sent in, and states, among other things, the following particulars: Pigs affected with trichinæ do not present symptoms sufficiently obvious to be recognized by breeders. It was therefore incumbent on the reporter to elucidate facts connected with diagnosis. Animals were for that purpose fed with meat full of trichinæ, and daily watched by veterinarians. The latter could hardly detect any change in the health of the animals, nor did slight indispositions present anything which could be construed into a pathognomonic symptom of the disease, yet it was proved by post-mortem examination that trichinæ had formed in large masses in the muscles of the animals. Hence the breeder cannot be expected to recognize the existence of the malady, nor should he be punished for having sold diseased meat. No difference of race, sex, or age creates a greater or less aptitude to be invaded by the trichinæ. It is not true, as has been asserted, that trichinian disease is produced by feeding pigs with beetroot, by the ingestion of earthworms, or of moles containing trichinæ. The investigators have found that the parasites of the beetroot and the moles are not identical with the trichinæ which infest the pig. Not so, however, with rats and mice, which are sometimes devoured by pigs. Cats also may be thus contaminated; the latter are especially sus-

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ceptible. It is therefore important to prevent pigs from eating dead animals. It is very likely that foxes and weasels may be very dangerous in this respect, but it is plain that pigs can but seldom feed upon them. Dogs are also very liable to breed trichinæ, but birds are quite insusceptible. Trichinæ, which have passed into the stomach of pigs with their food, are therein completely destroyed; hence it may be inferred that the fecal matter of diseased animals is not noxious. The culinary precautions to be held in view when cooking pork are the following: The process of boiling or roasting should be carried on with the greatest care. People should not partake of any meat that has not been sufficiently cooked, and avoid such roast pork the centre of which still presents traces of blood. By salting and smoking hams for about ten days, the trichinæ are quite destroyed.—*Lancet*, Feb. 10, 1866.

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Trichina Disease; Butchers' Microscopical Society.—The trichina question is taking on a practical aspect in Germany in the shape of the formation of microscopical societies by pork-butchers. That at Nordhausen, in Prussian Saxony, has just published its rules, stating in the preamble, that, as the microscopical examination of the flesh destined for sale is the only security for the public and the trade, and that as where this has to be paid for it will be apt to be neglected, it has been resolved to form a society which Professor Kutzing has agreed to instruct in the art of using the microscope and detecting the trichinæ in their various forms. Those persons who are desirous of being members of the Society must be in possession of a sufficiently good microscope, and have learned the use of it for the detection of the trichinæ. The microscope must be always kept in a good condition, and at least three portions of the muscles of each pig must be submitted to examination immediately after slaughtering. The preparations must be kept carefully between glasses for mutual examination and control, under the superintendence of Dr. Kutzing. When the microscopes and preparations are not found to be kept in proper order reproof will be administered, which, if not efficacious, will be followed by expulsion from the Society. The Society, moreover, offers to pay, for every pig containing trichinæ delivered up to it, not only more than the market price of the animal, but a premium of fifty thalers. This is, at all events, a good practical attempt at meeting what has become in Germany a great public calamity.—*Med. Times & Gaz.*, March 3, 1866.

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Syphilization in London.—At the Medical Society of London, Mr. James Lane read a summary of the history of cases of syphilis which have, under Professor Boeck's own superintendence, been subjected to syphilization at the Lock Hospital during the last few months. A crowded meeting assembled on the occasion to meet Professor Boeck, who was also present. Mr. Lane's paper went to show that the remedy was still on its trial, so far as these experiments are concerned. Mr. Lane, in fact, stated that he was not at present able to offer any definite opinion as to the value of the process as a means of cure. From the nature of the case, it necessarily happens that a long period of time, as well as many experiments, are required in order to obtain a fair view of the results. All that he would say at present was this, that, if he had nothing to adduce positive favourable to syphilization, he had nothing unfavourable to say of it. He had brought the cases forward in their present unfinished form, in order that the Society might have an opportunity of meeting Professor Boeck, who is on the point of leaving England. Mr. Lane paid a high compliment to Professor Boeck, and bore witness to his candour and high scientific attainments. At a future time he will produce his experience of the treatment in a more full and complete form. He said that the marks left by the process were really in most cases very insignificant—not so bad, indeed, as are those often produced by syphilitic rupia. Nor was any objection found on the part of the patients operated on (and they were almost all females) to submit to the treatment.

Much exaggeration exists in the minds of the profession on these points. The treatment had in no one of the twenty-three cases produced any unpleasant consequences; but all the patients had improved in health under it; and, in those few whose case was approaching a termination, the symptoms of the disease were disappearing.

This much, therefore, appears to be proved of syphilization in Mr. James Lane's hands: that there is, *per se*, no *à priori*

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objection to its use. The main point which remains to be decided is the effect of the treatment over the disease; and this, of course, time only can decide. If, as Professor Boeck asserts, the relapses are considerably fewer than after mercurial treatment, and at the same time only of a very mild and passing character; and if the disease may be said to be virtually eradicated from the body by syphilization, the remedy must be admitted to be most valuable, and, in fact, far superior to mercury or any remedy yet known. It is admitted that, under the influence of mercury, the symptoms of secondary syphilis disappear more rapidly than under syphilization; but then what is also admitted is, that relapses frequently occur, and that the severity of the symptoms of the disease increases with each succeeding relapse. The rapid mercurial cure may be, therefore, a deceptive cure.

Professor Boeck, again, lays stress on a fact, the importance of which has only of late years been dawning upon us; and that is, the fatal character of the internal diseases produced by syphilis—of the liver, kidney, brain, etc.; and it is, he asserts, in warding off those diseases, that syphilization is of such value. The objections taken to syphilization by Mr. De Méric were of a feeble character, and merely a re-echo of what has been so often said in Paris—viz., that it was immoral. Mr. De Méric also contradicted himself. He accused his compatriots of Paris of narrow-mindedness in refusing M. Auzias-Turenne an opportunity of practising syphilization in the French hospitals, and at the same time complimented England for its liberality in letting the thing be tried at the Lock Hospital. But if the proceeding be, as he asserts it is, of an immoral character, his blame of his own countrymen is wrong, and his praise of his English *confrères* very equivocal. His argument against syphilization as a cure for syphilis really amounted to nothing; viz., that he did not understand how such a remedy can produce the effects asserted of it. He forgot, as Mr. Lane told him, that, if his argument were worth anything, it would apply to nearly every dose of physic we give. Assuredly, only one thing can settle such a question, and that is experience. Those, therefore, who argue of its use from an *à priori* idea of syphilization, build their arguments on a quicksand They might just as well argue about the probable effects of a dose of Epsom salts from a consideration of their chemical character, or deny the virtue of quinia in ague because they do not know how it acts. And, in this respect it is only fair to say, that Professor Boeck has now had thirteen years' experience of the remedy; that his convictions are derived from the results of operations performed on a very large scale; that he is confirmed in the belief of the excellence of syphilization by what he has seen; that he is admittedly a man of large scientific attainments, and a most honest and careful observer; that what he says, therefore, is fully entitled to consideration; that his opponents have not facts, but opinions only, to set off against his statements; and that only fact and experiment can decide the matter. Besides this, it is no slight testimony in favour of his opinion, that such men as Dr. Bidenkap should have an equally firm belief in the remedy—belief founded on experiment. Opposition, therefore, like that of Mr. De Méric, must be regarded as mere play of words. As to the suggestion of immorality in the proceeding, we can only say that we are surprised to hear it uttered in a learned medical society. Would Mr. De Méric refuse to give mercury to a case of secondary syphilis, if he knew it to be a perfect remedy for the disease, and that it would prevent the patient ever afterwards suffering from syphilis? Would he, on moral grounds, abstain from the use of so perfect a remedy? Surely not. And yet this is precisely what his argument comes to in the case of syphilization.

Mr. James Lane and Mr. Gascoyen have determined to continue the experiments after the departure of Professor Boeck; and we may, therefore, anticipate that in due time, and not at a very distant date, the profession will have the results of their very carefully conducted experiments laid before them in a complete form.—*Brit. Med. Journ.*, Dec. 23, 1865.

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Stomatoscope.—A new instrument, to be termed the *stomatoscope*, was exhibited last week to the Paris Surgical Society by its inventor, Professor Bruns, of Breslau. A platinum spiral wire (inclosed in a box-wood cup, to prevent the transmission of heat), brought to a red heat by the passage of an electric current from two of Middeldorp's elements, is placed in the mouth behind the teeth. The light reflected by a

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very small mirror is sufficiently intense to render the jaw transparent, so as to allow of the vessels proceeding to the roots of the teeth, the smallest specks of caries, etc. etc., becoming visible. By reason of the transparency, even the labial coronary artery may in some subjects be seen at the level of the commissure, and its course followed. The instrument is therefore likely to form a useful means of exploration in dental affections.—*Med. Times & Gas.*, Feb. 3, 1866.

—

Mortality in Paris Maternity Hospitals.—Dr. TARNIER, in a pamphlet on the *Hygiene of Maternity Hospitals*, gives us details of the fearful mortality of puerperal women in Paris hospitals. In the days of Tenon, when these women were massed together, two, three, and even four in the same bed, in narrow hospital wards, the mortality was 1 in 15. At the present day, in our spacious and well ventilated wards, each patient having her own bed, the mortality is still as great. The statistics of M. Husson show that in 1861 the mortality in hospital of puerperal women was 1 in 10, whilst the mortality of those attended at their own houses was only 1 in 194! The women delivered at home are, for the most part, lodged in dirty, small, ill-ventilated, and badly lighted rooms; they have little or no linen or fire, and are badly nursed; and yet they recover. In 1862 the mortality was 1 in 14 in hospital, and 1 in 164 outside. If, therefore, the mortality had been no greater inside than outside the hospitals, the deaths would have been 80 instead of 1,169, who actually died in hospitals during those two years. It appears, in fact, that 545 puerperal women are thus somehow or other actually destroyed by residence in hospital. M. Tarnier may well call this a national calamity. The cure of this frightful state of things is to be found, he says, in a complete separation, in single-bedded rooms, of the women during the first ten days after delivery.—*Brit. Med. Journ.*, Jan. 6, 1866.

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Smallpox in Paris.—Smallpox is raging in the Quartier of Paris near Vincennes. The hospitals of La Pitié and of Vincennes are crowded by its victims. In consequence, orders have been issued to officers in command to have the men of the regiments quartered in that part of the city revaccinated. A heifer infected with cowpox was accordingly sent to the barracks of the Cent Gardes, and all the men as well as the officers of the corps were duly vaccinated from the sick animal.—*Lancet*, March 3, 1866.

—

Astley Cooper Prize.—The ninth triennial Prize of three hundred pounds under the will of the late Sir Astley P. Cooper, Bart., will be awarded to the author of the best essay or treatise on the disease known as "Pyæmia." Candidates must send their essays to Guy's Hospital on or before Jan. 1st, 1868, addressed to the Physicians and Surgeons of Guy's Hospital. The prize is open to the whole world. We trust that some one of the hospital surgeons of this country, who have had ample opportunities of studying this disease, may be the successful competitor for this prize.

—

Middlesex Hospital.—This institution has recently received from an anonymous friend the munificent donation of one hundred thousand dollars.

—

New Gigantic Fossil Animal.—The fossil remains of an animal, stated in the papers to be those of a bird, which must have been 25 feet high, have been discovered in some limestone beds at Nelson, New Zealand. The remains are in all probability those of a saurian.

—

Street Accidents in London.—Upwards of three hundred persons are said to be annually killed by vehicles in the streets of London.

—

Naples.—It is stated (*Lancet*, Jan. 20, 1866) that there are about 4,000 students in Naples.

A new clinical hospital with 350 beds has been established in that city.

—

OBITUARY RECORD.—Died, March 5th, 1866, aged 71, JOHN CONOLLY, M. D., formerly resident physician to the Hanwell Asylum, and whose labours in ameliorating the treatment of the insane largely contributed to the banishment of restraintive means, and to the establishment of the present humane methods of treatment. His memory will be held in respect as long as human sympathies for the unfortunate endure.

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The great reputation of Dr. West in this country and Europe as a teacher, and as an elegant writer—the fact that his work on diseases of children has passed through so many editions in English and German, and that translations have been demanded in Dutch, French, Danish, and Russian, render superfluous any extended notice of this, the fourth American edition. Every practising physician should make this work a careful study.—*Chicago Med. Journal*, Jan. 1866.

At the present time we have no English writer perhaps, on the Diseases of Women and Children more favorably regarded than the author of the volume before us. It has already received the full favor and approbation of the profession. We observe that it has been translated into the German, French, Danish, Dutch, and Russian languages, showing the general regard and appreciation of the book by the profession everywhere. We will, therefore, at this time, content ourselves by simply repeating our former commendation; expressing our belief that it is for the general practitioner one of the best works in print.—*Cincinnati Lancet*, March, 1866.

The author had unusual opportunities for observation in relation to the diseases of infancy and childhood, and seems to have possessed all the requisite qualifications for improving his opportunities to good advantage. Hence, we have, in the present edition of his work, one of the very best treatises on those diseases accessible to the student and practitioner. It is worthy of a place in every physician's library.—*Chicago Medical Examiner*, February, 1866.

WINSLOW ON BRAIN AND MIND—Revised Edition. Just Issued.

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This work is well known to all who have taken any interest in the study of this abstruse and important subject. As an authority in medico-legal medicine, Dr. Winslow has long occupied a deservedly distinguished position. It is rare to find any one capable, not only of logically discussing questions proverbially obscured by the subtlety of the jurist and the casuistry of the metaphysician, but of bringing to such a discussion the pleasing graces of rhetoric and the chaster ornaments of polite literature.—*Richmond Medical Journal*, February, 1866.

Indeed, we have rarely read a medical work of so fascinating a character in the material presented; every chapter being most copiously and piquantly seasoned with anecdote, sketches, and personal notes. Forbes Winslow is authority on his specialty, and his book will be sought for as a work of reference, and as indicated its style and matter will render it a most acceptable and reliable companion to the medical student everywhere.—*Cincinnati Lancet*, March, 1866.

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VOL. XXIV. MAY, 1866. No. 281.

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CHOLERA.

Notes on the Pathology and Treatment of Cholera. By GEORGE JOHNSON, M. D., F. R. C. P., Professor of Medicine in King's College. (Continued from p. 53.)

The General Principles of Treatment.—The account which I have now given of the pathology of cholera, although brief, will, I trust, have been sufficient to convey to those who have carefully read these papers a definite idea of the doctrine which I advocate. If there are any who desire to have further details, and proofs, and illustrations, these may be found in a book which was published ten years ago, but which has hitherto attracted singularly little notice.

I proceed now to the inquiry, What has this pathology to do with treatment? And I maintain that it is a compass which will guide the intelligent practitioner over a "sea of troubles" and perplexities in the treatment of cholera. We now have a definite view of the nature of cholera, of the relation which the symptoms bear to each other, and of the manner in which the disease tends to a spontaneous recovery. We can see that, amongst a vast number of plans of treatment, some have been unquestionably beneficial by assisting the curative efforts of Nature, while others have been as unquestionably detrimental by opposing those efforts. Others, again, have been of a mixed character; as, for instance, the combination of calomel—a purgative—with opium. And, lastly, some methods have been simply neutral in their effects, except in so far as the knowledge that something was being done for him may have inspired the patient with hope and confidence. As an illustration of this, I may mention one of the many infallible cures which have found their way into the *Times*. I mean the inoculation with quassia. If that which has been satirically said contained the whole truth—namely, that "the

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chief art of the physician is to amuse the patient while Nature performs the cure"—the inoculation with quassia would be as effectual as any other method of treatment, and it would have the great negative merit of doing no harm.

There is no remedy which has the slightest pretension to be considered a cure for cholera; no drug or agent which, so far as we know, will neutralize the poison or lessen its virulence. I have not the faintest hope or expectation that a specific remedy for such a disease as cholera will ever be discovered. The number of really specific remedies which we possess for any diseases is unfortunately very small. Those who believe in specifics are, in general, ignorant of the nature of disease and of the true methods of cure; and this ignorance renders them quite incompetent to estimate the influence of treatment.

If I have correctly interpreted the phenomena of cholera, the natural method of cure is eliminative. The process of elimination takes place by two successive stages. 1. There is excretion from the blood into the stomach and bowels; and 2. The morbid contents of these viscera are ejected by vomiting and purging.[1] Can we do anything to assist this natural curative process? Unquestionably we can; by emetics and purgatives. But is it necessary or beneficial to interfere in any way? Ought we not rather to leave the cure entirely to Nature? I have no doubt that much may be done with advantage. And my conviction of this is based partly upon theoretical grounds, and partly upon the actual results of treatment. If we carefully observe the condition of a patient in collapse, we shall often find that the intestines are more or less distended with fluid; and this, too, while perhaps there is general torpor and very little effort at expulsion. Again, it is often found that, although there has been copious watery purging during life, the small intestines contain after death a large amount of a peculiar viscid dirty white material, having a very offensive odour. A purgative may be useful in removing both these conditions; namely, over-distension of the bowel by liquid, and accumulation of offensive viscid semi-solid secretions. The object of a purgative in cholera is not to increase excretion from the blood into the stomach and bowels; but simply to assist in the expulsion of the morbid secretions from the digestive canal. To fulfil this indication, that purgative is best adapted which acts most speedily, yet with the least amount of irritation. I believe that castor oil best accomplishes this object; but a great variety of purgatives have been given with more or less success.

When, in September, 1854, I first publicly stated that I was giving castor oil as a purgative in cholera, the announcement was received with a howl of execration. Give a purgative to a patient whose blood has already been drained of all its liquid and thus rendered too thick to circulate! Unheard of atrocity! Statistics must immediately be published to show that this plan is most deadly in its effects.[2] But at the same time statistics were showing that calomel in frequent and sometimes in large doses is a very successful remedy. How does the calomel act? Is it not an irritant and a violent purgative? Or what is there to deprive it of its purgative properties when given for the cure of cholera?

Calomel a purgative! exclaims indignant orthodoxy. No! calomel is an alterative. It acts upon the liver, and restores the secretion of bile. Those who give this explanation of the action of mercury in cholera, are of course quite unaware what is the real cause of the suspended secretion of bile during collapse, and are therefore equally ignorant of the conditions essential for the restoration of that secretion. To call calomel an alterative and a restorer of the biliary secretion does not, like its com-

[1] If there are any who doubt the elimination of a *morbid poison* by the stomach and bowels, no one can doubt the existence of offensive *morbid secretions* which require to be cast out.

[2] It was evidently the opinion of some who chanced to be in prominent positions at that time, that my alarming outbreak of heterodoxy must be treated, like cholera, by very active repressive measures. So fierce an onslaught was made upon me, that I began to fear lest what Sydenham said of smallpox two hundred years ago, would be found equally applicable to cholera in the present century. "I venture to assert," said Sydenham, "that the physician who has much to do with smallpox runs many risks with his reputation. The vulgar are ever in the habit of ascribing deaths to the officiousness of the attendant; whilst physicians themselves catch greedily at opportunities for slander. They make out their case before incompetent judges, and procure most uncharitable verdicts. They act thus in order that they may build up a name for themselves upon the ruined reputation of others; a proceeding disgraceful to even honest artisans—doubly disgraceful to scholars." (The *Works of Sydenham*, translated by Dr. R. G. Latham for the Sydenham Society, vol. i. p. 137.)

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bination with opium, deprive it of its purgative properties. I therefore claim the reported success of the calomel treatment as evidence in favour of elimination.

Saline Treatment.—Another plan of treatment which has unquestionably been attended with a large amount of success is that which is known as the saline treatment of Dr. Stevens. The theory upon which this treatment is based—namely, that the essential cause of cholera is a deficiency of the saline constituents of the blood—has been shown by accurate chemical analysis to be fanciful and erroneous; but this happens to be one of those rare cases in which a theory may be wrong and the practice based on it not far from right. I have condensed from Dr. Stevens' work (*Observations on the Nature and the Treatment of Asiatic Cholera*) the following account of his theory and his practice.

"The first efforts towards a cure should be directed to assist nature in throwing off the poison from the blood, *per vias naturales*, and, at the same time, supplying the necessary saline stimuli, on which the action of the heart and its vessels depends. In accordance with this view, patients presenting merely the first stage of premonitory symptoms, diarrhœa and vomiting, took, on their admission, a Seidlitz powder: and, if sinking was felt but without bowel complaint, more active purgatives were then employed; or three or four teaspoonfuls of Epsom salts were added to the Seidlitz powder. On the bowels being moved, plenty of thin beef-tea, well seasoned with salt, was given. This simple treatment was so successful, that a great many patients had no further complaint, and were generally dismissed cured in a few days.

"If cramps, coldness, or sinking of the pulse, were present, the patients were considered as cholera patients in the second stage. The 'non-purgative' salts were administered every half hour, or more or less frequently, according to the symptoms, and in the following dose: Muriate of soda ℈j; carbonate of soda ʒss; chlorate of potash gr. vij. When life seemed rapidly ebbing, the collapse stage having been reached, a strong solution of the same salts, at a temperature of 100°, was thrown into the bowel. The saline mixture was administered half hourly; and, in severe cases, the muriate of soda was increased to a drachm, or even more, as circumstances seemed to require. In some cases, an enema composed of a large tablespoonful of common salt in water, at as high a temperature as the patient could bear, was administered every two or three hours."

This plan of treatment has been attended with a large amount of success in the hands of many different practitioners; but, for a very obvious reason, it has not been generally adopted. Its mode of action is essentially eliminative; and, therefore, it is incompatible with that theory of collapse through loss of water which has taken such firm hold of the European medical mind.

This theory of collapse, which now, we trust, has received its death-blow, started into life when cholera first visited Europe in 1832. Before that time, our countrymen in India could not only *give* purgatives as a part of the regular treatment of cholera, but they might also *call* them purgatives without subjecting themselves to the imputation of culpable rashness and folly. Abundant illustrations of the use of purgatives in the treatment of cholera may be found in the writings of the following Indian practitioners: Bell, Orton, Scot, Curtis, Twining, Christie, Rogers, Kennedy, Searle, and Corbyn. None of these writers had any very definite pathological theory. They looked upon cholera as a disease chiefly of the nervous system. They called it spasmodic cholera; and they often gave opium to relieve cramps at the same time that they gave very active purgatives to remove the morbid secretions from the bowels. The fact that, in many instances, their treatment was a mixed treatment—a combination of opiates with purgatives—renders their writings the more instructive, since it clearly appears, on a careful study of their cases, that, in proportion as either the opiate or the purgative plan prevailed, was the mortality increased or diminished.

Several of these authors speak highly of the use of castor oil, on account of its unirritating properties, and the completeness with which it brings away the viscid and putrid secretions from the bowels.

The very interesting paper by Mr. Watkins (*British Medical Journal*, Oct. 28, p. 445), to which I have before referred, contains a most instructive illustration of the effect of various modes of treatment. It will be seen that four distinct sets of cases are there described. In one set opium was

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given alone; these were all fatal. In a second set, the opium was combined with calomel or with gray powder; of these more than half died. The purgative action of the mercury somewhat lessened the mortal effects of the opium. In a third set of five, calomel alone was given; and of these one died, while four recovered. In a fourth set of twenty-one, castor oil was given; and nineteen of these patients recovered. Besides these, one case which had been treated by gray powder and opium passed into collapse, and then, castor oil being substituted for the other remedies, she ultimately recovered. Lastly, one most interesting case in full collapse was treated by castor oil until he rallied; then, through some mistake, two pills, probably of calomel and opium, were given, he fell again into collapse; he was a second time treated by castor oil and ultimately recovered.

It is sometimes argued, that no remedies can possibly be of use during collapse because absorption is suspended. Now, in the first place, Magendie has shown that absorption is not absolutely suspended during collapse, though it is rendered much less active. He injected camphor into the rectum, and detected its odour in the breath in five minutes, whereas in health, he says, it may be detected in one minute. He performed the same experiment with ether, and with a similar result. He reasonably infers that absorption is slowly carried on during collapse. (*Leçons sur le Cholera Morbus*, p. 97.) There is undoubted evidence that opium and alcohol become absorbed, and produce narcotic effects during collapse. But the remedies which are of real use during collapse have no need to be absorbed. Surely a mustard or salt and water emetic need not be absorbed in order to excite the stomach to expel its contents. And it can scarcely be doubted that calomel and castor oil, by their stimulant action on the inner surface of the bowel, may excite muscular contraction, and so act as purgatives without being taken up by the blood-vessels.

A writer on cholera during the last epidemic stated that "brandy, ether, and ammonia, turpentine, and even champagne, were given to rouse the flagging energies of life, but to little purpose; they were generally thrown from the stomach as soon as swallowed, and draughts containing creasote, chloroform, and camphor, shared the same fate. The stomach had, as it were, lost the power of ministering to the wants of the system."

Now, it may be asked, whether the stomach was not much wiser and more useful than the doctor, and whether it could better "minister to the wants of the system," than by the expulsion of its morbid secretions, together with such a horrible mixture of drugs as could not be retained and absorbed without adding to the perilous oppression of the vital powers.

During the last epidemic, I observed very carefully the effect of *brandy* in the few cases in which I ventured, in a tentative manner, to give it to patients who were in collapse. I found that it speedily increased the restlessness and feeling of oppression; at the same time the pulse lost power and volume, and the temperature fell. I infer, therefore, that brandy and all alcoholic stimulants during the collapse stage of cholera add to the obstruction of the pulmonary circulation, instead of passing freely through the lungs and then stimulating the left ventricle, as they do in other states of system. I resolved, therefore, never again to give alcoholic stimulants in collapse, no matter how great the *apparent* exhaustion may be.

In a few cases, the *sesquicarbonate of ammonia* was given with apparent benefit; and this remedy appears to deserve a further trial as a stimulant during the stage of collapse.

It is worse than useless to attempt to *feed* a patient during collapse. The secretions of the stomach are utterly deranged, and the power of digestion is suspended. The mildest nourishment administered at this time only adds to the feeling of oppression and general distress, from which the act of vomiting often gives immediate relief. Upon this point, I have satisfied myself by repeated and very careful observation.

The wife of the English chaplain in Paris has recently obtained notoriety by administering *chlorodyne* in fifty or sixty cases of incipient cholera, and, as it is stated, "has succeeded in arresting the disease in every instance." What would be the effect of chlorodyne in cases of choleraic diarrhœa? It would relieve the cramps, and, by its narcotic operation, it would in some degree retard the spontaneous recovery of the patient. Nevertheless, if a lady have a determination to step beyond her own proper

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sphere, and to play at doctoring, chlorodyne would be a much less dangerous drug in her hands than opium and strong astringents.

Dr. Bullar and Dr. Risdon Bennett have recently spoken in high terms of the good effects of *external warmth* to the skin of patients in collapse. Dr. Bullar recommends the hot mustard bath; and Dr. Bennett packing in hot wet blankets. There can be no question that to thoroughly warm a patient in collapse is often a real benefit; the pulse, the temperature and the color of the skin, and the expression of the features, all improve simultaneously. And we can readily understand this effect of warmth if we have thoroughly comprehended the *modus operandi* of hot saline injection into the veins. But too much must not be expected from the application of external warmth. The warm bath has often been found to have a very depressing effect. Annesley declares that, in his opinion, it did more harm than good. "The fatigue arising from going in and coming out of it, and from rubbing and dressing the patient, exhausted him." (*Diseases of India*, p. 156.) Christie found the bath injurious; and Dr. Parkes says: "I have seen a man walk firmly to the bath, with a pulse of tolerable volume, and a cool but not cold surface, and in five or ten minutes have seen the same man carried from the bath, with a pulse almost imperceptible, and a cold clammy skin. I cannot find in my notes a single case in which the warm bath appeared beneficial." (Parkes *On Cholera*, p. 210.)

During the epidemic of 1849, I saw several patients in King's College Hospital placed in the hot-air bath; and the result of my observation was that, while the warmth appeared to be beneficial, by relieving the cramps, and sometimes even improving the pulse, yet, on the whole, the patients appeared to be rather distressed than comforted by the bath. The employment of hot baths in the treatment of cholera obviously requires caution. Faintness is a not uncommon result of remaining too long in a hot bath, even when the bather is in health; and, in the collapse of cholera, a sudden and deadly exhaustion may be thus induced. Then be it remembered, that choleraic collapse is a form of asphyxia. There is an instinctive craving for air. Again and again will the patient toss all covering from his body; and it is likely that surrounding the body with hot water, or hot air, or wet blankets, may cause distress by interfering with cutaneous respiration—*i. e.*, the aeration of the blood through the skin. A very convenient way of keeping up the warmth of the body is by the application of hot bottles, hot dry flannels, or hot sand-bags, to various parts of the surface.

Dr. Murray, an Indian practitioner, obtained very striking results in the improvement of the pulse by *injecting into the rectum* every half hour, or hour, or two hours, according to the urgency of the case, a pint of a weak solution of common salt and carbonate of soda, at a temperature of 120°. (Rogers' *Reports on Asiatic Cholera*, p. 241.) The injections were retained generally from two to four minutes—sufficiently long to impart considerable warmth to the blood in the vessels of the large intestine; and to this, without doubt, the good effects were due. It appears to me that hot injections into the rectum may be used with advantage in cases of extreme collapse.

The good effects of heat are unquestionable. But what is to be said of *ice* or *iced water*, either taken into the stomach, or applied externally? During collapse there is usually a sensation of burning in the region of the stomach, and a strong craving for cold liquids. Iced water relieves that sensation of heat, and it has a powerful influence in checking vomiting. Are these sufficient reasons for giving iced water to a patient in collapse? In my opinion, decidedly not. I am sure that vomiting, when not excessive, is beneficial; and I believe that iced water lessens the burning sensation in the stomach by diminishing the vascularity of the mucous membrane, and thus interfering with the excretion of the morbid poison, upon the ejection of which by vomiting depends the patient's recovery. For these reasons, I believe that the administration of iced water to a patient in collapse is injurious. In most cases, I would allow an unlimited quantity of water of the temperature of the room; but, in extreme collapse, I would persuade the patient to drink *hot liquids*, with a view to add some warmth to the blood.

The application of *ice to the spine* has been recommended by Dr. Chapman. The theory which suggested this practice is a speculative web spun from the projector's brain. There is no evidence to show that

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this practice has been useful in any case. That some patients subjected to this distressing mode of treatment would recover, is certain; it is equally certain that their chances of recovery would be lessened by the depressing influence of the ice on the nervous system, and its chilling effect on the blood. We know that, if we can thoroughly warm a patient in collapse, we improve his general condition; and this, whether the warming be effected by the external application of heat, or by hot injections into the veins or into the rectum. We therefore can have no difficulty in perceiving that to thoroughly *chill* a patient in collapse must be a painful and a dangerous proceeding.

Venesection, as we have seen, has often afforded great relief during the stage of collapse; and I have before pointed out that the only rational interpretation of its *modus operandi* is that, by lessening the over-distension of the right cavities of the heart, it increases the contractile power of their muscular walls. The symptom which appears especially to call for venesection, and which has most commonly been relieved by it, is rapid breathing, with an oppressive sense of suffocation. When, with these symptoms, there is a cessation of vomiting and purging, which is probably a result of the almost entire arrest of the blood in the lungs, I believe that venesection affords the only hope of benefit. If during the last epidemic I had known as much of the essential cause of collapse, and of the influence of venesection, as I now do, I believe that I might have saved more than one patient who, for the want of that knowledge, was lost.

In this communication, I have done little more than sketch the general principles of treatment. The only safe guide in conducting the details of treatment is to have a very clear and definite view of the pathological interpretation of symptoms, and of the mode in which remedies may assist the natural process of cure. Without this pathological knowledge, it is scarcely possible to avoid falling into some of the many errors which have affected the treatment of cholera, and which have often led to the neutralization of the good effects of one remedy by the simultaneous use of other means having an opposite and an injurious influence.—*British Med. Journ.*, Nov. 25, 1865.

President Lankester's Address in the Public Health Department of the Social Science Association.—(Continued from page 57.)

"I will not now attempt to settle the question whether these diseases are contagious or not; whether they arise from a special poison which is propagated in one body and is conveyed to another, or whether there are certain general conditions of external agents which engender poisons capable of spontaneously producing them. I need but generally remind you that amongst our sanitary reformers there are two great schools, the disciples of one of which maintain that the great mass of zymotic diseases are produced by special poisons, and are called contagionists; whilst the followers of the other school do not believe in the existence of special poisons, but maintain that certain general conditions of sanitary neglect and dirt are alone necessary to produce the group of zymotic diseases, and they are now called anti-contagionists. Now, I believe that the extreme views of each school are wrong; and I have a very deep impression that for sanitary measures to be directed by one or other party, in the present state of our knowledge of the diseases, would be to plunge us into worse evils than quiet submission to their unresisted influence. For an officer of health to suppose that cleansing, and draining, and washing, would arrest the progress of smallpox in a house full of unvaccinated persons, would be an utter absurdity; whilst the placing a cordon around an ill-ventilated and badly warmed house, expecting to keep off bronchitis and pneumonia, whilst the temperature is 12° below freezing point, would be equally absurd. But, whilst all are agreed that smallpox is a contagious disease and bronchitis is not, there is a large class of diseases on which sanitary authorities differ as to their nature, and the best modes of arresting their development. It is on this account that I now propose briefly to examine what is really known of the nature of contagious diseases and their mode of propagation; and if I succeed in nothing further, I hope I shall be able to show that it is of the utmost importance in all our sanitary operations that we should at least consider the issues of both theories; that, whilst believing in contagion, we should act as if all depended on the removal of the

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general external agencies of disease; or, whilst believing in the spontaneous origin of diseases in dirt, we should yet do all to avert the possibility of their propagation by contagion. It is of the highest importance, at the same time, that we should pursue the inquiry into the origin and nature of those zymotic or pneumatic diseases which carry off annually upwards of 100,000 of our population. In order to do this, I think there are three circumstances that demand our attention. There is, first, the poison that is supposed to kindle the disease; and, secondly, there is the medium that conveys it to, thirdly, the person predisposed to take the disease. If we lose sight of any one of these elements in investigating zymotic diseases, we shall most assuredly go wrong, and practically commit great mistakes. Thus, let me take smallpox as an example. In order to propagate this disease, there must be, first, the poison-matter from a smallpox pustule; secondly, a medium of conveyance, either the point of a lancet or an atmosphere to convey the poisonous germs; and, thirdly, there must be a person predisposed to take it. If the poison be not there, no amount of predisposition, that we are aware of, will engender the disease. Again, if the poison be there, and the predisposed person, there must be a medium of conveyance; if a predisposed individual be at one end of a room and the affected individual at the other, and the current of the atmosphere blow from the unaffected to the affected individual, no poison will pass and no disease be established. Or, again, the atmosphere may be so extensive as to dilute the poison to a tenuity by which it becomes powerless; or the atmosphere may be artificially ozonized, or iodinized, or chlorinized, so as to destroy the germs of the poison. But let the poison be ever so intense, and the medium ever so ready to convey it, if the unaffected individual have had the smallpox or have been vaccinated, no disease will be produced. Hence, we must study the poison-makers, the poison-bearers, and the poison-takers.

"Now with regard to poisons, even the anti-contagionists admit that, in what they call miasmatic diseases, conglomerations of dirt and filth, or matters in their wrong places, do enter the system, and, at one time or another, do upset and damage the healthy working of the machinery; and they are also bound to state in a scientific way what compounds are produced by dirt, and in precisely what way they affect the system. There can be no doubt that certain inorganic agencies, such as carbonic acid, sulphuretted, phosphuretted, and carbonated hydrogens, ammonia, and sulphocyanogen, do produce injurious effects upon the system. Continued exposure to such exhalations may prevent a proper oxidation of the tissues, and render the body predisposed to take in the diseases of special poisons; but we have no evidence to show that any of these agents—although they will destroy life—are capable of producing alone any of the forms of miasmatic disease.

"Again, it seems demonstrated that there arise, during the decomposition of vegetable and animal matters, certain organic molecules, which being taken into the system, will produce certain definite changes in the system constituting well known forms of disease. Thus, ague and kindred fevers, called paludal, and paroxysmal fevers, do not seem to be produced by poisons formed in the animal system, but by poisons formed during the decomposition of vegetable matter. A certain amount, also, of the diarrhœa of summer is to be set down to the decomposition of animal and vegetable matters. Certain quantities of these matters are directly taken into the stomach and bowels; whilst others appear to come into contact with the mucous surfaces by inhalation. There is, also, one of the endemic and epidemic fevers of our country that is supposed by high sanitary and medical authorities to originate in the spontaneous decomposition of organic matters in drains and sewers; hence it has been called 'drain-fever.' It is, however, generally better known by the name of gastric or typhoid fever. That this disease is generated by a specific poison, has been demonstrated by Dr. William Budd, of Bristol; and, should it be capable of demonstration that this disease is really generated *de novo* by the matter of drains and sewers, it would be an interesting fact, as showing the possibility of a contagious disease being produced afresh. But, up to the present time, we have no conclusive experiment with regard to the origin of any of the specific contagious diseases. There is no error, perhaps, of more vital importance to the public health than that which was fallen into by some of our early sanitary reform-

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ers—a belief in the spontaneous origin of the several forms of diseases produced by specific contagions.

"The most common forms of contagious disease in this country are smallpox, scarlet fever, measles, whooping-cough, typhus fever, typhoid fever, and our occasional visitant, Asiatic cholera. Of the intimate nature of the poisons producing these diseases, we know but little; but recent researches with the microscope lead us to hope that we are not far distant from the time when, at least, the form of these poisons will be made visible to the human eye. It is a fact known to all, that the blood contains two sorts of cells or globules, one red, the other white. The white cells are composed of matter in a state of vital change. It is these cells which accumulate in inflamed parts, and which form the pus found in vesicles, pustules, abscesses, and inflamed surfaces of the body. These pus-cells have a great power of multiplication; and they retain their vitality after they have been removed from the living body. We can convey common pus-cells from one living body to another, and make them increase. There is a disease of the eye attended with a large formation of these pus-cells, and these may be conveyed through the air from one person's eye to that of another, and produce the same disease. In the disease known as pyæmia, these cells assume a specific character; and Dr. Richardson informs me that he has succeeded in producing, artificially, pyæmia in animals by introducing the secretions of an animal affected with pyæmia into one that is not. In smallpox, we have a disease characterized by pustules over the body. Each pustule contains a secretion abounding with pus-cells, and the matter of which they are formed. It is the introduction of this purulent matter into the blood, that sets up the dreadful malady of smallpox. In the same way, we find the vesicle of cowpox charged with white cells, and the 'germinal matter' of Dr. Beale. The germinal matter here, however, does not possess the vitality and energy of that of the smallpox pustule. It is seldom conveyed through the air; like some other animal poisons with which we are acquainted, it requires contact; but, on being introduced into the blood of another person, it produces the same disease—always the same disease, never another. We may learn much of the nature of these poison-cells by the study of those which we know so well. These cells, or germinal-elements, retain their vitality long after they have been removed from the body, if you exclude them from the air. The vaccine lymph has been conveyed between pieces of glass, or dried on tips of bone or threads of linen and cotton, all over the globe, and has been found capable of engendering the disease cowpox. This shows us how all these poisons may be covered over in linen, cotton, and woollen fabrics, how they can be conveyed in letters and newspapers, how they may adhere to inanimate substances of all kinds, and only need the awakening influence of a little moisture to summon them to awake and live anew.

"No one, that I am aware, has yet isolated the poison of scarlet fever, of measles, of typhus, of cholera, and of the other diseases of the group of contagious diseases; but, reasoning from analogy, and there could hardly be a better instance of the process, we are driven to the conclusion that these diseases depend on a cause similar to that of smallpox, and that the real form of the poison is the charged white cell of the blood. It is, however, interesting to notice some varieties in the habits of these poisons. Thus, we are not aware that the poisons of smallpox, measles, scarlet fever, or typhus, are conveyed by any means but through air; whilst there is every reason to believe that the poisons of typhoid fever and cholera are conveyed by the agency of water. There is an interesting relation between this fact and the seat of the disease; for, whilst one set of diseases manifest themselves by eruptions upon the skin, the other set is characterized by derangements of the mucous membrane of the intestines.

"A question of high interest arises here, and it is one that has not at present been settled; and that is, as to whether the poison-matter of these diseases is capable of multiplying itself by cell-division, or the ordinary forms of the growth of fluvial matter out of the body. It does not seem impossible that this should be the case, although at present we have no demonstration of the fact. We know that such multiplication takes place among the lower forms of plants, as the yeast, or ferment-

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fungus (*Saccharomyces Cerevisiæ*), and that it also occurs amongst the vibriones and monadinæ in the animal kingdom.

"Another interesting question connected with these poisons, is the possibility of transformation or development. In the animal kingdom, we have this phenomenon taking place, that an animal passing from its egg to its adult state is capable at each stage of multiplying itself, so that a number of creatures are produced at each period of its growth, capable of attaining, under proper external circumstances, the adult stage. Now it may be that, amongst these cell-poisons, there are stages of development at each of which the cell is capable of propagating its own form and no other, till it meets with the proper external circumstances for a further change or development. Professor Huxley relates that, on board the *Rattlesnake*, after they had been six weeks at sea, the cook got an attack of erysipelas; this spread through the ship and ceased. After this, one of the sailors had mumps, and this also spread through the ship. There are other interesting facts bearing on this point; but I throw out these hints here as subjects full of practical importance to the sanitarian.

"Let me now say a few words with regard to the means of conveyance of poisons. The most obvious of these means are the atmosphere and water. The air, to carry most poisons, must be warm and moist. The poison of yellow fever spreads in hot climates; the poison of typhus is arrested by heat on the one side and by cold on the other. It prevails, in fact, only in climates having a range of temperature between 40° and 62° Fahrenheit. At the temperature of boiling water, all these poisons are destroyed. A most important fact, as we have in every household in Europe the means of destroying them.

"But there are other means of conveyance besides air and water. Articles of food, articles of wearing apparel, bed-clothes, curtains, carpets, and all vessels and depositories containing the secretions of human beings, may retain the poison-cells in all their integrity. These things may carry the poisons from household to household, disseminate them in our streets, our omnibuses, our railways, steam-ships, and public conveyances of all kinds. The drain may carry them into the sewer, and the sewer into the river; but, in their course, they may escape from our ventilating-shafts, our gully-holes, and open closets. They may be emptied into our wells and rivers, and conveyed to our bodies by means of spring-water or river-water. They may be shut up in drawers or in old closets (of which there are many striking instances on record), and, at any moment when brought into contact with the human system, they may start into life and activity again, to renew their ravages on systems predisposed to their action.

"That the poison of a disease may exist, and every possible access to a system be present, and yet the disease be not taken, is well known. Instances frequently happen of persons living to old age, without having had any of the ordinary contagious diseases of mankind. It would be well to make a more accurate study of these cases. But we know something of the laws of the predisposition to disease. We know, for instance, that persons who have had the smallpox are not disposed to take it again. We know that, in nine cases out of ten, if persons have been vaccinated, they will not take smallpox. This is one of the great triumphs of our modern civilization. It is the beacon of our hopes with regard to crushing out for ever the poisons that can only be propagated in human systems. But our knowledge of predisposition extends further than this. We know that, where the four great factors of our life have been scantily supplied or vitiated, there predisposition exists, not only to idiopathic and self-generated disease, but to receive the germs of the poison fevers of which I have been speaking.

"So well is this known, that we can point out certain external conditions, which will so act upon the human system as to predispose it to certain forms of disease. Thus, amongst our working men and women, who live in badly ventilated and overcrowded houses, we find those who are most ready to take the poison of typhus. Amongst the underfed, the fever called relapsing, which differs from typhus and typhoid, finds its most ready victims. Hence it has been called famine-fever. But no class or condition of men have been discovered who are not susceptible of these poisons. The medical man who lives free from the influence of overcrowding or famine, in his own home is frequently stricken down with these fevers. The

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anxiety of the student, the statesman, or the prince, may undermine his health, and render him a ready victim for the poison that lies concealed like a snake in the grass in his path. It is not necessarily among the overcrowded and badly ventilated rooms of the poor, and the squalor and filth of our lowest classes, that scarlet fever selects its victims and commits the greatest ravages. The homes of the rich and the hearths of the comfortable middle classes of England are made desolate by this all-pervading scourge; and it is a mockery to say that we know the conditions of those who will be the subjects or the victims either of scarlet fever or its twin-sister of mischief, diphtheria. That both these diseases depend on a special poison, which can be communicated through the medium of the air, and preserved in activity on inanimate substances, as clothes and excreta, I have no doubt; but we cannot predict with any certainty who will be their victims."

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Approach of Cholera to our Shores.—The steam-ship England, of the National Steam Navigation Company's line, from Liverpool to New York, put into Halifax on the 9th of April, cholera having broken out among her passengers six days previously. She had twelve hundred and two passengers and a crew of one hundred men. No cholera existed at Liverpool at the time of her sailing. The disease broke out among the German passengers, and at the time of her arrival at Halifax one hundred and sixty cases had occurred and fifty deaths. She was put into quarantine, the disease soon disappeared, and she was then allowed to pursue her voyage to New York, where she is now at quarantine.

On the 18th of April the steam ship Virginia, belonging to the same line, arrived at New York with ten hundred and eighty passengers, most of whom were Germans, who had only been a day or two at Liverpool before embarking. Eight days after leaving Liverpool one man who had had slight diarrhœa from the time of sailing, suddenly grew worse and died. On the day of his death (12th April) two other passengers were attacked, and afterwards the epidemic extended until over a hundred cases had occurred before her arrival, of which number forty-seven have died. The whole number of deaths up to the latest accounts is said to reach a hundred and fifty; and the number of new cases is largely on the increase. It is stated, and this is worthy of note, though the same has been before observed, that the disease broke out on board the Virginia when she was in the same latitude as the England was when the disease appeared on that ship.

The ship has been detained at quarantine and every measure taken to cleanse the vessel to make the passengers comfortable and prevent the spread of the disease so far as quarantine measures can effect that object.

Trichinæ in Pork raised in the United States.—A committee was appointed some time since by the Chicago Academy of Sciences to ascertain, first, whether Trichinæ actually exist in the hogs of this country, and in those of the Northwest in particular; and secondly, should they exist, to determine the extent of the danger thereby incurred, and to ascertain the best means of averting it. For the attainment of the first object portions of muscles from 1394 hogs in the different packing houses and butcher shops of Chicago have been examined, and the results presented in tables.

These tables show that the committee "have found trichinæ in the muscles of twenty-eight hogs out of 1394 examined. We may therefore conclude that in the hogs brought to Chicago one in fifty is affected with trichiniasis in a greater or less degree. We must confess our surprise at arriving at this result, which indicates, with little doubt, the startling fact that trichiniasis in pork is even more common in this country than in Germany, where it caused so much suffering and death. For instance, in the city of Brunswick, where a most careful inspection of 19,747 hogs was made in the years 1864-5, only two were found to contain tricbinæ in their muscles, the proportion being 1 to 10,000 against 1 to 50, as before stated, in our country. The comparative immunity from disease which our own people have enjoyed, undoubtedly results from our habit of cooking meat before eating it, while in Germany it is eaten raw by the poorer classes on account of the high price of fuel."

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The committee have found the spinal muscles more liable to be infested with the trichinæ than other muscles.

The committee point out the following as the means of guarding against the evil :—

"Now that the existence of trichinæ in our pork has been established beyond a doubt, it will be proper for us to point out all known means of defence against its ravages. First, with regard to the rearing of hogs. These animals undoubtedly become infested through the eating of flesh of some kind, since no trichinæ, nor germs of trichinæ, have ever been found in any vegetable food. A strict attention to the feeding of hogs, and their confinement in pens where no animal food is accessible is an infallible preventive against trichiniasis in them. Such management is all the more necessary, since European authorities agree that it is impossible to diagnose the disease in the animal from external appearances, and no culpability can therefore attach to the farmer for selling hogs which prove to be affected with trichinæ.

"In regard to pork, the use of the microscope is primarily indicated. With this instrument only can we ascertain with certainty whether the muscles of the hog are free from the parasite. The general use of the instrument is, however, impracticable, unless a system of microscopic inspection be adopted here, as in Europe, at the great packing establishments. But we have in our power much more simple means of insuring safety in the consumption of pork. It is simply necessary to cook it thoroughly, so that every portion of the meat shall have experienced a temperature of at least 106 degrees Fahrenheit. We cannot insist too strongly upon this point. Again, by properly salting and smoking the meat for a period of at least ten days, the trichinæ, should they exist, will be certainly killed. Simple desiccation of the meat, if continued for a period of sufficient length, will also kill them. They will never be found alive in old hams, for instance. On the other hand, mere pickling appears to have very little effect upon these worms."

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Medical Society of the State of Pennsylvania.—Owing to the difficulty of securing adequate accommodations in the town of Kingston, which was selected for the next annual meeting of the Medical Society of the State of Pennsylvania, and in accordance with the wishes and request of the Luzerne County Medical Society, the meeting of the State Society will be held on Wednesday the 13th day of June next, at Wilkesbarre, the county seat of Luzerne County, and only one mile distant from Kingston.

Delegates upon arriving at Wilkesbarre are requested to report immediately at the office of the Wyoming Valley Hotel, where the committee of reception will be in attendance.

Efforts are making to secure commutation tickets over the various railroads leading from different points in the State to Wilkesbarre.

By order of the committee of arrangements.

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Medical College of Ohio.—At the annual commencement, held on the 1st of March last, the degree of M. D. was conferred on 67 candidates.

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St. Louis Medical College.—At the annual commencement, held on the 2d March last, the degree of M. D. was conferred on 50 candidates.

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Miami Medical College.—(Cincinnati.)—At the annual commencement, held on the 1st of March last, the degree of M. D. was conferred on 26 candidates. The number of matriculants during the session was 154.

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Medical College of the State of South Carolina.—At the session of 1865-6, the number of matriculants was 34, and at its close the degree of M. D. was conferred on 13 candidates.

The next course of lectures in this institution, which has been in successful operation for upwards of 40 years, will commence Nov. 5, 1866.

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Legal Liability in Cases of Surgical Malpractice, in its Principles and Limits.—By Geo. C. Blackman, M. D., Prof. Surg. in Med. College, Ohio, and Stanley Mathews, Esq., of the Cincinnati Bar. This is the title of a work announced as in preparation, and which is promised to be published early in the coming autumn. The numerous vexatious trials to which our profession have been subjected for alleged malpractice, render a complete collection

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and digest of cases very desirable to both the medical and legal professions.

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New Medical Journals.—We have again to add to our list of new Journals. Since the rush to California after the discovery of the gold placers there, nothing like the present rush into medical journalism has occurred, and we can only express the hope that the science of medicine may be explored with the same productive energy as were the gold mines.

The first we have to notice is the *Southern Medical and Surgical Journal*, the publication of which was suspended during the rebellion, and which is announced to be revived under the editorship of Dr. JOSEPH JONES. No. 1 of the third series is to appear on the first of July next. It is to be a bi-monthly.

The second is the *Nashville Journal of Medicine and Surgery*, the first No. of which is to appear on the 1st of July next, and to be continued monthly thereafter. The editor and proprietor is Dr. W. K. Boling.

Third. The *New Orleans Medical and Surgical Journal* is to be renewed under the editorship of Drs. Chaillé and Nichols, and a number is announced to appear in July next.

Lastly we have received the announcement of the *New Orleans Medical Record*, the first No. of which is to be issued on the 1st of June, and semi-monthly thereafter. This is the fourth New Orleans Journal.

We shall be happy to extend to all these journals the usual editorial courtesies, and to place them on our exchange list.

FOREIGN INTELLIGENCE.

Dr. Bence Jones' Discovery of a Quinine-like Substance in the Animal Body.—At the last Friday evening meeting of the Royal Institution, Dr. BENCE JONES gave a singularly lucid and interesting account of one of those discoveries which, from time to time, open up entirely new fields of research. It seems that Dr. Bence Jones some months ago desired to detect the presence of quinine in the animal body. For this purpose a test was essential, and the test he adopted was that peculiar influence (fluorescence) of this alkaloid on the refraction of light, whereby it makes the dark part of the spectrum beyond the violet ray luminous. Having fixed on this as a test, and prepared standard solutions of quinine so that he might be able to get something like a notion of quantity, by comparing the effects of solutions of various strengths on the spectrum, he set to work on a guinea pig—gave the creature three grains of quinine, then tested the blood, and crystalline lens, and other parts, and obtained the most satisfactory evidence of the presence of quinine. Luckily, however, for science (though, as may be imagined, it was a source of great perplexity at the time), Dr. Bence Jones, in order to complete the experiment, submitted the same parts of a guinea pig, which had taken no quinine, to the same test, and out came the same reaction; every part of the *non-quinized* animal—heart, liver, kidney, and lens—when treated like bark, in such a way as to dissolve out and purify any alkaloid that might be in them, gave the same spectral reactions as similar solutions did from the animal that had taken quinine. Here was a puzzle! Undismayed, however, Dr. Bence Jones set to work to make out the mystery. He soon convinced himself that the tissues of all animals contain a something which, if dissolved out like quinine, gives the same fluorescent reaction with light. One solution of quinine, interposed in the rays of light, cuts off the fluorescence of another; so does a solution of the quinine-like substance; and so does each upon each interchangeably. Common salt and hydrochloric acid also lessen the fluorescence of both. This quinine-like substance, too, can be demonstrated in the tissues (in the lens) fresh, or preserved in glycerine; and can be demonstrated in the living as well as in the dead. Mr. Bowman had shown it in the eyes of his dog, and Dr. Bence Jones sat down before the electric light, which Professor Tyndall adjusted so as to let the audience see the strange fluorescent gleams from the interior of his eye. It has been found impracticable as yet to isolate this substance, so rapidly does it undergo oxidation; but Dr. Bence Jones had carried out an interesting series of investigations which convinced him that this quinine-like substance was part of the natural constituents of the body; and that judged by the quantitative reactions, the quantity of it was temporarily increased by giving quinine. It was shown by this means that quinine

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in a very few minutes after its administration passes into every tissue of the body; that its maximum effect is produced in two or three hours, and then decreases till it disappears in about seventy-two hours. The demonstration of its presence in the crystalline lens gave ground for hope that substances might be found hereafter to remedy perverted nutrition of the non-vascular tissues—as cataract, and even the deposits of gout in cartilages. Then, what a glimpse these investigations afford of the possible *modus operandi* of quinine in the cure of ague! We call quinine a "specific," a term which indicates our notions, or want of notions, of its action, and nothing more. But is it not possible that ague may depend on the absence of a natural quinine-like substance from the tissues? That quinine may supply this want (thus, by the by, showing the futility of all attempts to distinguish between food and physic), and that arsenic, on the other hand, may act within the body as it does without, by preserving certain matters from decomposition? Such is a rough note of this very interesting address, which was as valuable for what it promised for the future as for what it showed at the present.—*Med. Times and Gaz.*, March 31, 1866.

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Dr. Richardson's Method of producing Local Anæsthesia.—In the No. of the *American Journal of the Medical Sciences* for April last, p. 512, will be found an account of a very ingenious method devised by Dr. Richardson for the production of local anæsthesia. That method has attracted much attention, and it has been employed in England generally with success. It is stated in the *British Medical Journal* for Feb. 24, "We understand that on Sunday last Mr. Gowlland operated on a member of our own profession for fistula, Dr. Richardson himself applying the anæsthetic. The result was so good that the patient, after the operation, was not aware that the cut had been made. On Monday, Mr. Erichsen performed the operation for phimosis, Dr. Richardson again producing anæsthesia; and insensibility was produced in fifteen seconds, and the knife gave no pain whatever. On Wednesday, Mr. W. Adams removed a tumour of the size of a walnut from the foot of a young lady, Dr. Richardson in this case also applying the process. The insensibility was perfect in a minute; and Mr. Adams leisurely dissected out the tumour, without any sensation of pain being experienced by the patient. While the knife was slowly making its way, the lady was asked what she felt. She said she was conscious of the course of the knife, but that it was merely as though something was passing lightly over the surface, although the knife at that time was half an inch deep. On Tuesday, at University College, Mr. Henry Thompson applied the anæsthetic in two cases. He opened an abscess in the breast, and performed eversion of a diseased nail. The ether-jet was applied in each case only a few seconds, and both operations were absolutely painless. Different statements are made by different patients in regard to the sensation produced by the application of the anæsthetic. The lady, from whose foot Mr. Adams removed the tumour, said the sensation was rather pleasant than otherwise; others describe it as slightly unpleasant, and others as burning and sharp. On this point, Dr. Richardson says, a great deal depends on the part of the body subjected, and a great deal on the rapidity of the process. The mucous surfaces, the hands, and the face, are more sensitive than the other parts of the body. More also is felt when the process is prolonged. It is best to push the process on rapidly; and it is good practice, in cases where it can be done, to compress the artery above the part to be operated on, so as to cut off for the time the supply of blood. Other methods for making the process itself quite free of sensation in every case may be devised; and, as Dr. Richardson is now devoting himself closely to experiments bearing on this subject, there need be no anxiety but that this object will soon be accomplished. He is also having a larger apparatus constructed, on what he calls the brush-principle, with the view of applying the method in a capital operation."

In the number of the *Med. Times and Gaz.*, for April 7, 1866, Dr. Richardson has published an account of a case of Cæsarean section in which he successfully produced local anæsthesia by his spray apparatus.

This invention of Dr. Richardson's seems to be one of the greatest boons conferred on humanity, for fatal results have sufficiently often followed the inhalation of chloroform to excite anxiety, whenever that method of producing anæsthesia is resorted to.

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Animals cannot Live after being Completely Frozen.—M. POUCHET has lately made some careful experiments which tend to show that there is no truth in the statements which have been from time to time made, that certain animals will live after having been completely frozen. He shows that the blood globules are seriously altered by the congelation; and that the blood thus vitiated destroys life when allowed to enter again into circulation. But, in cases of partial congelation, if the blood thus altered be allowed to enter only in small quantities at a time into the current of the circulation, it may be gradually mixed with the blood without destroying life; just as Claude Bernard has shown that a deadly dose of woorara poison introduced into the limb of an animal may, by means of a ligature, be allowed gradually to enter into the circulation, and so as not to destroy life. The first phenomena of congelation observed are, the contraction of the bloodvessels, the consequent exclusion of blood from them, and pallor of the part. Then follow alteration and destruction of the blood globules. If the whole animal be frozen, then the whole mass of blood is altered, and death is the necessary result. When only a small part of the body is frozen, only a small quantity of altered blood passes into the circulation, and consequently life may not be compromised. An animal partially frozen may be kept alive for a long time, if the congelation be maintained; but will perish rapidly, if the frozen part be thawed, and so as to allow the altered and destroyed blood globules, etc., to enter rapidly into the circulation. Hence, in all cases of congelation, life is destroyed not by a stupefying action of the cold on the nervous system, but by the resulting changes effected in the blood by the freezing. The practical conclusion is, that, when a part has been frozen, it should be gradually thawed, and so as not to allow the altered and consequently poisonous blood to pass in too great quantities at a time into the circulation.—*Brit. Med. Journ.*, Jan. 6, 1866.

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Professor Schönbein's Researches on Oxygen.—Various scientific journals having recently announced that Dr. Schönbein, of Basle, had succeeded in decomposing oxygen into ozone and antozone, the French Scientific Association addressed a request to him that he would repeat before it the experiments establishing this discovery. In his reply the celebrated chemist observes:—

"You are perhaps aware that for the last 30 years I have been almost exclusively and uninterruptedly engaged in researches relating to oxygen, and in the course of this long series of investigations I have discovered, concerning this elementary body, a considerable number of new facts, from which I believe I am able to draw the following conclusions: 1. Oxygen may exist in three different allotropic conditions. 2. Two of these states are active, and opposed to each other; I designate them by the names ozone and antozone. 3. Equal quantities of ozone and antozone neutralize each other, forming inactive or neutral oxygen. 4. Neutral oxygen may be separated or transposed, one-half into ozone and one-half into antozone. But it is to be observed that the experimental demonstration of the justice of these conclusions is not as simple as, for example, that of the decomposition of water, and in order to apprehend their logical sequence, it is absolutely essential to become acquainted with a considerable number of facts relating to it. The exhibition of these facts by suitable experiments could not be accomplished at a single demonstration. The journals, moreover, have been in error in announcing that I had succeeded at isolating ozone and antozone in a state of purity. It is true, for a long time past, I have been engaged in attempts in accomplishing so desirable an end, but have not thus far met with complete success. Ozone and antozone are always mingled with neutral oxygen, which depends upon causes intimately connected with the generation of the two active modifications of oxygen. If the Association, after what I have said, continues to wish that I should visit Paris, and if the state of my health allows of my doing so, I shall have great pleasure in delivering a short course of lectures relating to the entire subject of my researches on oxygen."

We need hardly add how acceptable such a course would be from the distinguished discoverer of ozone.—*Med. Times and Gaz.*, March 31, 1866.

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Alcohol from Mulberries.—Many farmers in the south of France not deriving any profit from the leaves of mulberry trees since the disease has prevailed among silkworms,

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rooted up the trees. One of them, however, M. Felix Boyer, more sagacious than the rest, has sought to utilize the fruit, as the leaves had become valueless. He has found that ripe fruit pressed and fermented, furnished on distillation a pure and well flavoured alcohol, rivalling the best alcohol from grapes. 150 kilogrammes of the mulberries yield a hectolitre of juice, which yields on distillation 14 to 15 per cent. of alcohol.—*Revue de Thérapeutique Méd. Chirurg.*, March 1, 1866.

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Trichiniasis.—The *Wiener Medizinische Wochenschrift* states that the trichina disease has extended into Austria, and has appeared in Weigsdorf, Seitendorf, Königshain, Turnau, and Dornhemmersdorf.

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Rinderpest.—Much nonsense has been written about this disease, which has been prevailing so disastrously in Great Britain, and its importation into this country is so much feared. The following opinion of Prof. Gamgee, the highest authority on the subject, is worthy of attention. "Nothing but the most culpable ignorance could have led us to overlook the benefits of 'vaccination,' as a preventive against the cattle-plague, had any such benefits been observed and recorded in Russia. It is not vaccination but inoculation that is resorted to there, and this was first practised in England one hundred and twenty years ago. No sooner had Dodson taken up the idea from the inoculation for human smallpox, than the Dutch, Danes, and Germans conducted numerous experiments, and often with the result of losing only one per cent. of the inoculated animals. Skilled inoculators came in vogue. Many were their failures, loud were the complaints of the farmers in this and other countries; but nevertheless early in the present century, Walz and others suggested that all the calves in Russia should be inoculated, so as to render the entire horned stock of the country insusceptible to attacks of the plague. Prof. Jessen, of Dorfat, has very ably advocated the practice of inoculation in the Russian Steppes, and published a pamphlet on the complete extirpation of the rinderpest by this means in 1852. At that time a commission had been appointed by the Czar to advise as to the best means to be adopted for the prevention of the cattle-plague, which led to an annual average loss of 10,000,000 roubles. The only recommendation made by this commission was in favour of experiments as to the value of inoculation. Prof. F. Unterberger was sent to Southern Russia, and he turned his attention to cultivating lymph by passing it through the systems of animals, so as to modify its character, and he specially chose lymph from animals which indicated an eruption on the mammæ and mouth, an eruption which the history of rinderpest taught him had been more common when the successful inoculations of the last century were practised than it had been of late. The experiments which thus began in 1853, have been continued up to the present time, and I have in my possession all the reports published in the German language, and copious extracts from those published in Russian. The results arrived at are differently estimated by different individuals. Some still believe in the development of a great system of inoculation similar to that adopted for the vaccination of an entire population for the prevention of human smallpox. I am one of those who have no faith in the practice, and the ablest *résumé* yet published, which has but recently left the printer's hands in Dorfat, affords evidence of the hopeless nature of the task imposed on the Russians by those who believe that no horned animal of the Steppes should leave the supposed native haunts of the rinderpest without having been successfully inoculated.

"Vaccination, as now practised far and wide in this country, is another of the blunders of the present day. Rinderpest is rinderpest, and not smallpox. It is different from every other known disease of man or animals, though as a contagious fever it presents characters which some have regarded as not unlike those of typhus, typhoid fever, scarlet fever, or smallpox. It is none of these, and I regret that hasty conclusions as to points of analogy between rinderpest and variola have led to many fruitless and expensive experiments which have only served to direct people's minds from the one and only system by which such a malady can again be banished from our soil."—*British Medical Journal*, Feb. 3, 1866.

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The Cattle Plague.—This disease at the latest accounts was on the decrease in Great Britain.

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I am much pleased with this work, and I take pleasure in recommending it to the students who attend my lectures.

From ISRAEL T. DANA, M. D.,

Professor of Theory and Practice of Medicine, in Bowdoin College, Brunswick, Me.

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It presents a brief, but concise and reliable summary of those pathological and therapeutical views that are most generally accepted by the profession at the present time; and consequently it is well adapted for a text-book in the hands of students. It will also form a valuable addition to the library of the practitioner.—*The Chicago Medical Examiner*, April, 1866.

The Practice of Medicine of Prof. Flint is, undoubtedly, a most excellent work, and is much better suited to the special needs of the American student and practitioner than any other accessible to them. We predict for the book a very great, and, as we believe, well deserved popularity.—*Cincinnati Journal of Medicine*, March, 1866.

Contains all that has recently been added to our knowledge of this department of medicine.—*Detroit Review*, April, 1866.

Henry C. Lea, Philadelphia.

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CHOLERA.

Pathology and Treatment of Cholera.—We have laid before our readers in the preceding numbers of the *News* for the present year the views of Prof. George Johnson on the pathology and treatment of cholera. We have done so, first, on account of their novelty, for we think it proper to lay before our readers all new views with regard to this fatal disease; and, next, because they are urged with considerable ingenuity, and have made converts of a number of distinguished men abroad. We are far, however, from being satisfied of their correctness; on the contrary, it seems to us that his pathological views are based upon mere hypotheses, and that the treatment which naturally flows from them is eminently dangerous.

His assumption that in cholera there is a morbid poison in the blood, that this poison acts *first* on the lungs, causing a spasm of the bronchial arteries, which arrests the flow of blood to these organs, and that the vomiting and purging are efforts of nature to eliminate such poison, are clearly mere hypotheses. Moreover, did there exist a poison to be eliminated, it might reasonably be believed that the profuse evacuations from the stomach and bowels would be eliminative enough without having recourse to emetics and purgatives. In a paper on the pathology of cholera read before the Philadelphia County Medical Society by the editor of this journal, in 1832, and published in the *Cholera Gazette* of November of that year, we think it has been conclusively shown that all the phenomena of collapse are mainly due to the loss of the water and saline ingredients of the blood through the secretions into the alimentary canal, and that the collapse is to a great extent, *cæteris paribus*, proportional to the amount of this loss. We say *cæteris paribus*, because the amount sufficient to prostrate some persons is much less than for others. During collapse, absorption is nearly or

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wholly suspended, and hence the difficulty of supplying the loss sustained by the blood; hence, also, the wonderful temporary benefit resulting from the injection of saline fluids into the veins; some patients apparently at the point of death being so resuscitated as to lead the bystanders to indulge in strong hopes of recovery. This revival is, however, but temporary. The mucous membrane of the alimentary tract is profoundly affected, as first shown by Prof. Horner, who demonstrated that the whole intestinal canal was, to a greater or less extent, denuded of its epithelial covering, and, therefore, rendered more or less incapable of performing its functions. The water injected into the vein is speedily poured out again into the alimentary canal. Medicines taken internally in this condition are wholly inoperative at the time, but should reaction fortunately take place and the function of absorption be re-established, their cumulative effects may then be experienced and the feeble flame of life extinguished by them. Great care should therefore be observed in this torpid condition of the system not to introduce into the stomach or bowels large doses of potent remedies, such as calomel and opium. We believe that the principal phenomena of the disease are the result of the loss of the watery constituents of the blood. The physiological importance of water to the organism has only lately been fully appreciated. Claude Bernard has shown that it is an *essential component* of all living organism, without which life cannot be maintained. Robin and Verdeil regard water as an *anatomical* or essential element of living structures. Hence the fatal consequences resulting from its loss.

We may enter more fully into the details of this subject hereafter, but at present we have only space to throw out some general views, and to recommend to the consideration of our readers the very sensible views presented by Dr. Maclean in a lecture recently delivered at the Royal Victoria Hospital, Netley, to be found below.

Lecture on the Treatment of Cholera. Delivered at the Royal Victoria Hospital, Netley. By Deputy Inspector General Maclean, M. D., Professor of Military Medicine.

The lecturer gave a *résumé* of what had been said in detail in previous lectures on the history of epidemic cholera and its progress through the various parts of the world, and particularly the routes by which it has invaded this country: showing how invariably it has followed the stream of human intercourse by sea and land; and dwelling on the fact so much insisted on by Budd, that it has invariably first appeared in this country at a seaport, and that the one having the most direct and frequent intercourse with an infected foreign port or country. Dr. Maclean reminded his audience of the mode in which it is propagated in India. Starting from some unsanitary city or district, that it is spread by pilgrims, bodies of travellers, or troops, in movement from village to village and from one district to another. How a tainted regiment propagates the disease along its line of route. How a healthy regiment meeting another suffering from cholera, and communicating with it, almost invariably contracts the disease; thus forming a fresh focus and centre of propagation along its line of march. How healthy bodies of men encamping on ground saturated with the discharges of cholera patients almost invariably suffer: and many facts of a like kind, all tending to show what strong ground there is for believing that this pestilence is propagated by human intercourse, and that, in all probability, mainly by the poisonous action of the excretions of the affected after they have undergone certain changes.

From this Dr. Maclean passed on to consider the most rational methods of prevention in barracks, camps, and garrisons, on the line of march, and in transports, pointing out that these rules are, most of them, quite as applicable to prisons, schools, or manufactories as to troops. Dr. Maclean showed by numerous striking examples the terrible results that follow when cholera obtains a footing in barracks or prisons that are overcrowded. The lecturer then urged the necessity of attention to the state of the latrines, showing that in India the dormitories most under the influence of a privy atmosphere invariably present the largest number of cases and the heaviest mortality. The necessity of paying scrupulous attention to the quality of the water-supply was next insisted on, and proof given of the importance of this both from Indian experience and from the history of the disease in this country.

Dr. Maclean then urged that no epidemic

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of cholera should ever take medical officers serving in the plains of India unawares; that the probability of such an outbreak amongst the troops under their charge should ever be present to their minds, and all their plans and arrangements should, as much as possible, be made beforehand. He read the General Order of Sir Hugh Rose, deduced from the labours of the Cholera Commission in India, and explained its various provisions. This led to a full exposition of the duties of military medical officers during the prevalence of the disease in barracks, in camps, and on the line of march.

Dr. Maclean dwelt much on the importance of frequent inspection of troops by medical officers and intelligent medical subordinates for the purpose of detecting the stage of premonitory diarrhœa, giving many examples of a great saving of life by attention to this simple measure, and demonstrating how the same rule, if carried out in prisons, schools, and manufactories in this country during the prevalence of cholera would effect the same object. Premonitory diarrhœa is quite as common in this country as in India; and it is lamentable to see how much even well-informed people neglect the warning it gives. The late lamented Health Officer of Southampton was thus admonished for more than thirty hours before vomiting and rice-water evacuations appeared. Unhappily he, too, despised the indication of danger, and perished.

The treatment of this premonitory diarrhœa most insisted on was immediate recourse to the recumbent position, and the use of a warm, stimulating draught in combination with opium. Dr. Maclean spoke highly of the formula for the mixture in the "Medical Field Companion," intended to "promote reaction in diarrhœa and cholera": Oil of aniseed and oil of cajeput, of each one fluidrachm and a half; Haller's acid solution and tincture of cinnamon, of each two drachms. The dose of this is ten to fifteen or twenty drops, with the addition of fifteen or twenty drops of tincture of opium, or Battley's sedative solution. The mixture can be given again at short intervals. It is seldom necessary, or even expedient, to repeat the opiate. Great comfort and support is given at such a time by the use of a stout calico belt, lined with flannel, worn over the abdomen. Some care in diet is advisable for a few days.

Coming to the treatment of cholera when fairly established, Dr. Maclean thus expressed himself:—

Dr. John Macpherson, late of the Bengal army, and for many years one of the physicians to the Calcutta General Hospital, one of the most conscientious observers and recorders of facts in our profession, after approvingly quoting the melancholy words of Bouchardat (who concludes his account of what he calls the "*funeste champ de bataille* of the cholera epidemic of 1850" with the confession "that he had not only not seen a single efficacious remedy, not one discovery, not a single thought indicative of scientific progress"), adds: "The experience of the last fourteen years in Bengal has not been dissimilar. How many of the new remedies have stood their ground? Saline enemata, the successors of saline injections into the veins, have had their day. Croton oil and opium pills were at one time pronounced to be nearly infallible. Bloodletting I saw at one time employed; it is now entirely abandoned. A Madras surgeon found carbonate of soda wonderfully efficacious, as if to neutralize the acid of the Austrian cure. Ether and chloroform were immediately seized on, not only to allay the spasms, but to cure the disease. One surgeon recommended to the service the practice of parboiling his patients, but lived to abandon the procedure. The cold sheet, whether dipped in plain cold water, as in Bombay, or in an acid solution, as in Bengal, has been considered to work wonders. Quinine was recommended to the public, and immediately the newspapers were filled with the accounts of cures worked by the indigo planters by means of it. Nitrate of silver has been recommended here as in France, and may deserve a more extended trial. On the ground that, as an absence of bile from the evacuations was the great characteristic of cholera, its restoration *must* be the great remedy, ox gall was recommended—and tried." Among all these remedies, adds Dr. Macpherson, "I can scarcely say that any one is an important addition to our stock, except perhaps chloroform."

This passage was often in my mind in the early part of this winter, when men's minds were agitated by the presence of cholera in Southampton and other places. You must all remember how not only the professional journals, but the daily newspapers also,

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teemed with "cures" and "remedies" for cholera. One gentleman thought he had made a great discovery in hot mustard baths, and announced it in *The Times* with an honest confidence that somewhat surprised others as well as myself. The truth is, that seeing how prominent a symptom low temperature is in this disease, attempts to stimulate the surface and restore the circulation in this way were amongst the earliest remedies that occurred to the minds of physicians—first in India, and subsequently in this country. I well remember that all the places set apart in Edinburgh for the reception of patients, on the occasion of the first epidemic, were fitted with every conceivable means for applying both dry and moist heat. The extract given above from Dr. Macpherson shows that in India the "parboiling" system has had its advocates; and hundreds of living Indian practitioners can testify to the futility, to say the least, of this method, even when mustard has been added to give more activity to the measure. My colleague Dr. Davidson, Assistant Professor of Pathology at Netley, assures me that he has seen as many as twelve patients subjected to this method of treatment in one night at Peshawur. I wish I could say that only negative results have been obtained; but it is not so. In any but the trifling sort of cases in which this remedy was used in Southampton, it is not only a useless, but a highly dangerous remedy. To take a man in the collapsed and pulseless stage of cholera out of the horizontal posture, where alone there is a hope of safety, and to plunge him in this condition into a bath heated to the highest bearable temperature short of absolute scalding, to which mustard in large quantities has been added to make it more stimulating, is, in my judgment, about the surest method that can be taken to exhaust the little remains of vitality left. Experience has abundantly proved this, for so many men have perished in this way actually *in* the baths that the practice thus urged on the attention of the public as novel and efficacious has long since been abandoned in India. The novelty to me was not the treatment, but the explanation of the *modus operandi* of the remedy. How mustard and hot water, used in this or any other way, can "aërate the blood in the capillaries," I do not understand, and therefore cannot explain.

Dr. Chapman has urged his treatment by the application of ice to the spine with much earnestness on the profession, on the following theoretical grounds. "1st. That the primary cause of cholera is, as a general rule (liable to exceptions which will be indicated), the excessive heat of hot climates, and of temperate climates in the summer when cholera prevails. 2d. That the *proximate* cause of cholera is of precisely the same nature as that of summer or choleraic diarrhœa;" that is, as Dr. Chapman has explained in another place, "the dorsal nervous centres and those in intimate connection with them which directly govern the alimentary canal become suffused with blood much more copiously than is natural by the stimulant effects of the excessive external heat in hot climates, and of temperate climates in summer, and most rapidly by the direct rays of the sun on the back of the patient; the result on the intestinal canal being, that the bloodvessels nourishing the tube receive a larger supply of nervous influence from the vaso-motor nerve-centres than before, and hence, *contracting* more vigorously than natural, cut off to a proportionate extent the supply of blood to, and consequently the nourishment of, the intestinal walls. The bowels thus lose their wonted robustness, and become susceptible of being excited and thrown into excessive or convulsive activity by a stimulus which in their healthy condition would but slightly affect them." This hyperæmic condition of the nervous centres presiding over the bowels is, according to Dr. Chapman, the reason why the bowels, on the addition of the "nervous influence" which causes their peristaltic contractions, expel their contents with preternatural rapidity. In cholera this nervous hyperæmia is more developed, and consequently its action is proportionately more powerful and intense.

Dr. Chapman further regards the muscular debility, tremor, vertigo, impairment of respiration, cold breath, sense of faintness, &c., as due to the extreme hyperæmia of the spinal and sympathetic nervous centres, depriving the capillaries and vessels in all parts of the body of their wonted supply of blood. The rationale, then, of the ice-bag to the spine is that it corrects this hyperæmic condition of the nervous centres, and so restores the system to its normal condition.

I have only to say of this ingenious theory

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that if heat acts so powerfully in this way diarrhœa ought to prevail most during the prevalence of the hot land-winds in India, which is certainly not the case. So constantly is high temperature in operation in the plains of India that if heat acts in the way Dr. Chapman supposes, it is hard to explain why cholera should ever be absent from the hot plains at all, and still more so why, without any diminution in temperature, this terrible malady has at various times been dormant for long periods of years. It is a noteworthy circumstance, too, to my mind equally hard to reconcile with Dr. Chapman's theory, that cholera is quite as fatal during a St. Petersburg winter as in the hottest part of Lower Bengal.

I had the pleasure of meeting Dr. Chapman in Southampton when he came down to put his ice treatment to the test of experience, and I had the advantage of hearing him expound his views, at a meeting of one of the Southampton Medical Societies. I took the liberty on that occasion to say that, although I differed materially from Dr. Chapman as to the mode in which the disease is propagated, I would gladly give his method a fair trial; and had the disease appeared in the Royal Victoria Hospital, I was prepared to do so. I do not think that the result of the trials of this method at Southampton were sufficiently extensive to warrant any confident opinion one way or the other. I have had too much to do with cholera to rush into large conclusions as to the effects of remedies in ten or a dozen cases. Every person smitten with the cholera does not, as a matter of course, die; but judging from recent cholera literature, in every case where death does not occur, the fortunate issue is, without hesitation, put down to the credit of the remedies used: and if we have regard to the variety and number of these remedies, to say nothing of their opposite qualities, the result is very puzzling to those who do not reflect on the fact, that a certain number of people recover under every variety of treatment not positively hurtful, and, I may add, quite as many where no "treatment" in the shape of drugs has been used at all. Dr. Chapman has since, I understand, had an opportunity of trying his method on a larger scale in Paris. I am quite prepared to hear that this more full experience has tended to lessen the confidence with which Dr. Chapman was inspired when I had the pleasure of meeting him here. The powerful action of ice to the spine on the uterus has been pointed out by Dr. Chapman. It was well illustrated in one of the cases of cholera at Southampton. The application of ice to the spine of a woman profoundly collapsed brought on the menstrual discharge, which had ceased for ten or twelve days. This, as Dr. Chapman has himself shown, should be kept in mind, as otherwise in pregnant women unpleasant consequences might result from the application of the ice-bag low down on the spine.

Of all the methods of treating cholera that have come under my notice, the most extraordinary is certainly that which, for want of a better name, I venture to call "the corking-up method." The essence of this plan consists in restraining the evacuation of the rice-water stools by mechanical means; by bandaging, and, it is gravely added, "by plugging the anus!" The author of this ingenious invention is of opinion that if he can only cork our patients up as he would a bottle, all must be well. It does not appear to have occurred to him that once the serum of the blood has escaped into the bowels it may as well be in the chamber-vessel as in the intestine, for all the use it is or can be to the patient. So completely does this fallacy of regarding the mere purging as the essence of the disease underlie this, as it does so many other remedies and modes of treatment, that the author of this hopeful method holds out as one of the advantages of mechanically restraining the evacuations, "that in time they will be re-absorbed!"—*i. e.*, that this poisonous excretion will be again taken into the system to the advantage of the sufferer! Why not treat our patients suffering under typhoid fever in like manner? The diarrhœa in that disease is very "exhausting." Why don't we learn from this gentleman, to cork our patients up, and so obtain for them all the advantages of this "re-absorption"? No wonder the public were stunned and bewildered by the cholera literature of the last three months; no wonder a cry of "no confidence" arose on every side when "doctors" thus "differed," adding to the panic and distrust by promulgating crude, contradictory, and often irrational modes of treatment.

It would be unprofitable to pursue this

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part of my subject further. I wish I could hope that we have seen the last of a practice which is neither dignified nor useful.

I have felt it to be my duty to speak distrustfully of many methods of treating cholera which have lately been urged on the attention of the profession and the public. Many of them, if you will excuse a homely metaphor, are the cast-off clothes of Indian practitioners brushed up to look like new. "Old Indian" doctors know them well, and make a present of them to their new and complacent wearers without a sigh. Well, gentlemen, I know no "cure" for cholera. What is more, I suspect we are never likely to see one. Nevertheless, I believe we shall in time extinguish cholera as we have, in this country at least, extinguished plague. This is one of the certain triumphs that await the slow progress of sanitation. It is probable that a whole generation of obstructives must pass away before even the initiatory steps in this great movement are likely to be taken. We have sanitary commissions in all the great Presidency towns of India; but they are without the necessary authority to act in an effective way, and, in some instances, very notably in Madras, the whole weight of those in power is exercised to obstruct the efforts of the commissioners for the public weal. We are not very much better off at home. Men ignorant or indifferent in such matters abound in high places, and in almost every municipal body in the kingdom trading selfishness and apathy prevail to the detriment of the public health. It is now time for me to point out what can be done for the benefit of those who are smitten with this disease. Although I know of no cure for cholera, I am quite sure that, by good and judicious management, we can rescue a great many who, without this, would inevitably perish.

1. You will endeavour to secure for your patients the best hygienic conditions possible under the circumstances in which you may be placed. In India, if that be possible, treat your sick in tents, and avoid overcrowding them.[1]

2. It is incumbent on you at the onset of any epidemic visitation to look a little ahead, and so to arrange the duties of your attendants and assistants as not to exhaust their strength and energies in the first few days. I have seen great mischief and confusion result from want of attention to this. The first sufferers who come in under such a system are well cared for; while those who come last are neglected from inability on the part of the attendants to hold out any longer.

3. The next point is to have arrangements made, first, for the disinfection; and, secondly, for the removal of the excretions of the patients. If this be not done, the tents or hospitals, if a large number of patients are under treatment, will soon be filled with bed and body linen saturated with cholera discharges. The attendants, unless prevented, will empty the vessels containing the stools as near to the tents or hospital as they dare. As a disinfectant, Dr. Budd, of Bristol, proposes chloride of zinc; but, whatever the agent, disinfected they should be, and on no account ought the evacuations of the sick to be emptied into the latrines or waterclosets used by the healthy. They should be buried in deep pits strongly charged with disinfecting agents. All soiled linen should in like manner be disinfected, and then plunged into boiling water outside the building or tent. The last case of cholera that occurred in the garrison at Malta, in the late epidemic, was that of a woman who had stolen a *chemise*, the property of one who died of the disease. She put on this fatal shirt, probably soiled with discharges, and certainly unwashed, many days after the death of its former possessor, took the disease, and died. I mention this instructive fact on the authority of a letter from my friend Inspector-General Anderson, principal medical officer at Malta.

4. The next point is to look well to what Sydenham would have called the "constitution" of the epidemic with which you have to do. I have never seen any two exactly alike. At one time you will see the majority of the cases characterized by vomiting, excessive purging of rice-water stools, with distressing cramps; at another, you will find cramps absent. Again, you will observe that there is little purging, but excessive action of the skin; or (most fatal form of all) little purging, vomiting, or exudation from the skin, the sufferers dying

[1] Dr. Morehead objects to this, but, as it appears to me, without sufficient reason. When cholera prevails in an epidemic form, the ordinary hospital accommodation is not enough for our purpose, without exposing the sick from other causes to great discomfort and peril, to say nothing of other reasons.

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almost before there is time for any of the well-known symptoms to be developed—the disease, as Magendie expressed it, "*commencing with death.*" Nothing can more clearly show how futile it is to expect a cure by merely "restraining the evacuations;" for, as I have just explained, the most fatal form of the disease is that in which there are no evacuations at all.

5. When first I went to India it was a common practice to withhold water, especially cold water, from cholera patients. A cruel and pernicious proceeding. The objection was, that it increased vomiting, and so exhausted the sufferer. Following the routine of the day, I have acted in this way; and I was taught by personal experience the folly of this article of prevailing medical belief. When a person has been drained by an hour or two of rice-water purging, the desire for water is urgent—instinctive: the system craves it as the "hart panteth for the water-brooks." Do not, then, be guilty of the cruelty of withholding water; give it often, and give it *cold*. Hot drinks are not relished by cholera patients. There is no necessity to give large draughts; but let not the fact that a portion of almost every supply is vomited lead you to withhold it entirely. If you have a supply of ice at hand, let your patients have as much as they please. I never saw a cholera patient to whom ice was not grateful.

6. Is it a judicious measure to apply heat externally; to cover your patients up with blankets; to stimulate the surface with counter-irritants, mustard, turpentine, and such like? Well, I have done all these things, and seen others do them again and again. Yet I question whether much is gained by them. I am quite sure that they are very distasteful to nine patients out of ten. But you will say, Patients are not good judges of what is good for them. Perhaps not. Still, I think physicians gain something in many diseases by attending to the instinctive promptings of their patients. I *know* it is so in the matter of drink in cholera; and I *think* in the matter of clothing and external heat we should follow this rule—where they are grateful to the patient they should be used, but, according to my judgment, they ought not to be persisted in if the reverse. I have not seen many cases of cholera in England, but I think I have observed greater tolerance of "blanketing" than in India. In Asiatics, the dislike to anything of the kind in this disease is universal. Mustard poultices are almost invariably applied to the epigastrium in cholera, and also to the calves of the legs. Sometimes they are beneficial; I do not think they can be hurtful.

7. Cramps are best relieved by the use of chloroform, given in doses of five or six minims in a little water; and if vomiting be excessive, a little may be sprinkled on a pad of lint covered with oiled silk or gutta percha tissue, and applied to the epigastrium; or spongio piline may be used for the purpose. I have used chloroform in this way, both externally and internally, very freely, and always with good effect. I have also seen a large dose of an alkali, the sesquicarbonate of soda or the bicarbonate of potash, instantly relieve the spasms, as well as mitigate vomiting.

8. No remedy has been more used, I should rather say *abused*, than opium. Most Indian practitioners have abandoned it as treacherous and dangerous. I must earnestly caution you against its use. In the stage of collapse, if it is retained, it is, it *must* be, useless. But when reaction sets in, the opium, previously inert, begins to act, and is at once a serious hindrance to the restoration of the secretions, and, if the quantity given has been large, often hastening on cerebral symptoms ending in coma. These are its dangers, without, so far as I know or could ever discover, a single compensating advantage.

9. What of astringents? No class of remedies have been more used in cholera. The great anxiety has ever been "to restrain the evacuations." Yet I am persuaded that the mere purging rarely kills; and, as I have already said, in the most fatal form of cholera there is no purging, or very little. Graves recommended acetate of lead with opium, and this combination has been more used than perhaps any other remedy in cholera. Sometimes capsicum is added by way of a stimulant. Here, again, we are met by the old difficulty: what service can we expect from such combinations during the condition of collapse? Very little, I fear. And what is likely to be the action of large quantities of this powerful sedative during the stage of reaction? Will it aid or embarrass the struggling system? Again, supposing the remedy to be retained and to act, how far do we benefit the patient

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by controlling the purging? I don't believe that cholera is caused by "hyperæmia of the nervous centres from heat." If this hyperæmia be present, there is something else present also, some *materies morbi*, some subtle poison—what, I know not, I do not pretend to know. If it be the case, as so many suppose and as I believe, that this poison is in part at least eliminated in the intestinal canal, how far do we benefit our patient by restraining it? I have ridiculed the attempt to secure this object by mechanical means; will the use of astringent drugs stand the test of argument any better? But then experience has sanctioned them. Alas! I have had much experience, and I am sure that I was more successful, as a rule, when I withheld them. Still, there are cases where some astringent is necessary. Granting that the purging within certain limits is salutary, it may go on to such an extent as to lower the patient hopelessly. In such cases an effort must be made to restrain it. Acetate of lead should then be used, in solution, but without opium. In such cases pernitrate of iron, in full doses, might be tried. My friend Surgeon-Major Mudge, of the Madras Army, made a trial of turpentine in egg emulsion with an aromatic, and in a number of cases found it more than answer his expectations. The sufferers in whom Dr. Mudge tried it were all Asiatics. It does not seem to have caused vomiting or even nausea—the objection to which we might expect to find it open, as turpentine is generally a nauseous medicine. In one epidemic I found nitrate of silver exceedingly useful as an astringent in excessive purging, particularly, as I noted at the time, in children; some of my native pupils used it extensively during the same epidemic in the great native city of Hyderabad, and with so much success as to gain for themselves considerable reputation. I used it again the following year, with disappointing results—another proof of the "varying constitution of epidemics."

10. Calomel has been used to fulfil every indication in turn, according to the peculiar belief of the prescriber. Some give it as a purgative, others as a sedative, not a few "to stimulate the secretions." I have seen it given as a cure for vomiting. Then we have a pretty numerous class who give it for no reason in particular. Calomel is the trump card in their hands: so like good whist-players, "when in doubt," as men are apt to be in dealing with cholera, they "play trumps"—they give calomel. I have seen it given in every conceivable way, and for every possible or impossible end: in grain doses every hour or half hour, and by heroic practitioners in scruple doses again and again. But, gentlemen, it is the old story. Calomel is of no use during the stage of collapse; but by-and-by, when the powers of life begin to revive again after the shock is over, the first thing the system has to deal with and to dispose of is twenty or thirty grains of calomel. What results? Very often vomiting of that "green paint-looking matter" of which I spoke appears, and you know how hard it is to stop that: or bilious diarrhœa is excited, which soon brings the case to an end. At the best it disturbs the stomach and interferes with nutrition. At such a time Nature needs the helping hand of the physician to sustain and assist her in the life and death struggle, instead of being searched and goaded by powerful drugs, prescribed no matter with what intention. Called to see a case of cholera a few months ago, I found calomel in combination with opium being "poured in" every hour. I ventured respectfully to ask the reason why; the patient being in a state of collapse, the medicine was accumulating in the stomach like water behind a barrier. "What," I asked, "do you expect will be the action of all this calomel when the barrier gives way, when the functions begin to be restored?" The prescriber was not very sure, thought perhaps it might have "a cholagogue action—stimulate the bile." I might have asked, Is it not conceivable that Nature will do this herself? And why not stimulate the kidneys as well? Why concentrate all your attention on the bile? Is the biliary more in abeyance than any other secretion? and so on. I do not think these are impertinent questions. I recommend you to put them to yourselves when you are tempted in moments of doubt to prescribe as D'Alembert said we sometimes do—using physic as a strong but blind man uses a club in a crowd, hitting friend and foe with equal impartiality.

11. *Stimulants*, both of a medicinal and alcoholic kind, have been much resorted to in cholera, and very naturally. The prostration of the powers of both circulatory and nervous systems is so extreme that we cannot wonder that strenuous efforts have been

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made to rouse and to sustain them by the free use of remedies of this class. Yet I think that those who have used them most, if observant and candid men, must admit that they have not answered their expectations; and at least all must allow they require to be given with a cautious hand. They are useful, as I shall presently show, when given at the proper time and in the right way. I do not think that they are of any use during the stage of collapse, when at first sight they might appear most appropriate.

We have thus examined the therapeutic value of the remedies that have been most used in cholera. The result is not encouraging. I may say I have tried most of them, and the above is the result of my experience. You will perhaps say—Do you then advise no treatment in cholera at all? Well, I can only say that in the collapsed stage I know no drug worthy of the smallest confidence. Must we, then, abandon our patients to nature, and do nothing? Must we suffer them to die without an effort to save them? My answer is, that efforts of the kind described above are futile; your remedies are either vomited, or, if retained, are inert, and if given, as they often are, in excessive quantities, they become a serious source of embarrassment, interfering above all with nutrition. If opium, the preparations of lead, or calomel, have been abstained from, Nature, in the stage of reaction, starts, so to speak, fair, which I am sure is not the case when weighed with one or other, or, as I have often seen, with all the above. Because I objected to bleeding intemperate old soldiers of twenty years' service in tropical and malarial climates, taking blood away to the extent of upwards of a hundred ounces when suffering from peri hepatitis, I was called the other day "the Micawber of medicine," the gentleman who waits to see "what will turn up." Well, I don't object to the name in the least; I had rather be the "Micawber" than the "Sangrado" of modern medicine. The more I have "waited" upon Nature, the less I have attempted to force her, the more I have found that "something" is pretty sure to "turn up" to the advantage of my patients. Very notably has this been the case in cholera. Some—unfortunately a great many—patients in severe epidemics will die, but such cannot be saved by pouring drugs into them in the collapse of this terrible disease.

Suffer me to recapitulate. Secure the best hygienic conditions possible for your patients; avoid crowding them; give abundance of water to drink and ice to suck; correct cramps and inordinate vomiting by the internal and external use of chloroform; apply external warmth and extra bedclothes if these are grateful to the patient, but if they make him restless do not press them. If the cuticular discharge is excessive, wipe the patient dry from time to time, disturbing him as little as possible. If vomiting be not excessive, and if the remedy does not excite it, ten drops of the mixture I have recommended in the premonitory diarrhœa may be given from time to time, chloroform being substituted if vomiting be urgent. As soon as vomiting ceases, you must support the patient by proper nutriment. At first I begin usually with thin arrowroot, well boiled, and flavoured with a little aromatic. I give this, commencing with a teaspoonful at a time, giving every now and then a teaspoonful of brandy in it, never over-distending the stomach. Instead of water, I now quench thirst with milk containing a little lime-water, and flavoured, if it be at hand, with a few drops of curacoa. This may be often given to the patient with a little soda-water. As reaction proceeds, I substitute strong beef-tea, or, better still, essence of meat, using it in the same cautious way—spoonful by spoonful at proper intervals; later still, eggs beat up with a little brandy, and flavoured as before with curacoa, is often relished. The greatest caution is required not to disgust the patient, not to re-excite vomiting, not to over-stimulate, and so to bring on cerebral symptoms during the febrile reaction. When patients are thus carefully nursed, it is seldom that reaction is excessive. Nothing but mischief may be expected from over-anxiety to hasten forward convalescence by too freely pressing food and stimulants on the patient. It requires a great deal of drilling and care to get orderlies and half-instructed nurses to understand this; and many cases go wrong from their over-anxiety to press both on those under their care. In a word, the treatment of cholera may be summed up in two words—*good nursing*. The difficulty is to obtain this when an epidemic rages. The man who in

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such scenes maintains his presence of mind, preserves order, regularity, and good hospital discipline, and so arranges as to secure to each patient a fair amount of this good nursing, will save a larger proportion of cases than by any other method with which I am acquainted. What I recommend to others I followed in my own case. When struck down by this disease, I took no drugs. I experienced the burning thirst I have described; but instead of tormenting myself by abstaining from fluids, I drank freely of iced soda-water, to my infinite comfort and refreshment. When I vomited, which I did often, I drank again. A faithful servant, my only doctor, sat by me, and, when too feeble to do more than express my wants by a gesture, replenished my cup again and yet again. I vividly remember the resolution then formed, and never since departed from—to do unto others as had been done unto me; never to withhold a cup of cold water from a cholera patient. With daylight came a kind and judicious medical friend, who, instead of goading me with physic, sustained me with food, much in the manner I have advised in this lecture. With the result I had and have every reason to be satisfied and thankful. Dangerous reaction—*i. e.*, high fever, with cerebral symptoms and coma, I have seen; but only when Art, coming not to aid but to thwart Nature, has interfered with her eliminatory processes by the too free use of opium, astringents, and such like remedies. In such cases we must have recourse to free purgation by calomel, apply ice to the head, and restore the action of the skin by the wet-sheet cold sponging, and the like. When the secretion of urine is long delayed, I have seen good result from the free use of chlorate of potash, and the application of turpentine stupes over the region of the kidneys.

Note.—Since the above lecture was delivered, I have seen and read with pleasure and profit Dr. George Johnson's "Notes on Cholera." This able physician has been led to much the same conclusions as to the action of most drugs in cholera as are expressed above. Dr. Johnson puts more faith in the action of purgatives than I can do; for, like every known class of drugs, they have been freely used in India. I sincerely trust that Dr. Johnson may never see so many cases of cholera as I have done; but I cannot help thinking, should it be otherwise, that he will see cause to believe with me that, in a vast majority of cases, there is quite enough purging without artificial aid. Still, for my own part, if again smitten by cholera, let me rather fall into the hands of a *purging* than an *astringing* physician—one who thinks he does you service by retaining what Nature is so solicitous to expel from the system.—*Lancet*, Feb. 3d and 17th, 1866.

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Cholera on Board the National Steam Company's Steamer England.—The *Lancet* of April 28th contains the following account of the cholera on board this vessel, derived from a letter from the captain to the Secretary of the Company. The England—Capt. Grace—sailed from the Mersey on the 28th of March with 37 cabin and 1059 steerage passengers, and a crew of 122 men: in all, 1218 souls. The steerage passengers consisted chiefly of Germans, the majority of whom were from Holland (East Frieslanders), and amongst them were a great number of children. These people were of the lowest class, extremely dirty in their habits, all dressed in linsey-woollen clothing, and their diet consisted almost entirely of the sour kraut that they had prepared before sailing; they actually refused the food provided for them on board the vessel. The captain writes that some days after leaving Queenstown the cholera broke out amongst them; that in two days it began to spread fearfully quick, first amongst the steerage passengers, then amongst the crew, especially the firemen, four of whom, and the steerage steward, quickly succumbed. The captain made for Halifax as the nearest port, there, if possible, to check the spread of the disease. On the 13th of April, when he wrote, 140 deaths had occurred in the steerage, none in the cabin; but he adds, "they are still dying rapidly: some 50 more are dying now, and how many more will die God only knows." On arriving at Halifax the sick were at once removed, some to tents on shore, and others to a Government hulk lying near. These are all the particulars that are yet known. The *England* is one of the finest vessels belonging to the Company, is nearly new, of 3307 tons burden, and registered to carry 1100 passengers.

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Cholera at Liverpool.—Two or three portentous facts stand out in the history of the cholera which has broken out on board the

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German emigrant ships. One is the existence of an European population so filthy, debased, and brutalized, as is described in the letters of our Liverpool correspondents. More serious still is the length of time between their departure from the Continent, and the outbreak of the cholera; for it is thus shown that passengers apparently healthy may carry cholera in their persons, clothes, or baggage. As to the dirty habits of the emigrants, they are described in the following terms by the highest sanitary authority in Liverpool:—

"I have asked the Medical inspector of emigrants, and one of the chief managers of the National Navigation Steam Company, about the condition of the passengers on board the *England* when she left this port. Both these gentlemen concur in saying that there was no appearance of sickness or of debility among them; but the manager states that the emigrants by the *England* were the dirtiest of the whole lot which have been passed this year. If he be correct, the statement is important, for the Dutch and Germans on board the *Helvetia* are the dirtiest people in their habits whom I have ever seen. The surgeons assure me that not unfrequently they rinse out with water the pan used for the reception of the excrement and urine of their children, and then employ it as a cup for drinking and for their dinner mess; and no power or persuasion will prevent them leaving their dejections on the floors, the bedding, or the clothes. The water of the *England*, and, indeed, of all the ships sailing from this port, is supplied from the same source as the town itself. One of the chief passenger brokers of the people conveyed by the *England* says that the greater number of them came from South Germany and Switzerland, and merely passed through Rotterdam and Antwerp. The whole system by which these unfortunates are picked up, or rather trepanned, in Germany, and, for a fixed sum of money, hurried through to the ocean steamers for America, is very blamable, and should be placed by the several governments under regulations and restrictions."

The latest report from Liverpool states that cholera has appeared amongst the Germans or Dutch who have been removed from the *Helvetia* to the depôt at Birkenhead. The father of the child who died last week is stated to be ill of cholera in the workhouse; and five deaths from the disease have occurred on board the Hospital ship *Jesse Munn*. Seven more cases were under treatment on board the same ship. The town is flooded with Dutch and German immigrants. All the lodging houses are full, and 200 had to be accommodated by the parish authorities on Tuesday last. These people mostly arrive at Hull from Hamburg and Rotterdam, and it seems clear that if quarantine measures are to be of service, it is at Hull they must be put in force. It is proved that a mere medical examination is no safeguard. Detention of the apparently healthy may seem a harsh measure, but it is the only one which can be relied on, and the facts of the present importation seem amply to justify it.—*Med. Times and Gazette*, May 12, 1866.

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Cholera in New York City.—The first pronounced but probably the second case in reality of cholera, occurred in this city on the 30th ultimo. We are led to be thus qualified in our statement, since the fatal case in Delancey Street, reported some weeks ago by the physician in attendance, although still in controversy, had symptoms equally well marked. But be this as it may, the case to which we have alluded in the first paragraph, occurred in the person of an industrious Irishwoman, aged thirty-five years, who occupied, in common with two other families, a frame house, not noted for the salubrity of its immediate surroundings, upon the east side of the Third Avenue, between 92d and 93d streets. The building is situated upon a high bluff, swept by breezes from off Ward's Island, in which certain, or according to some observers, merely alleged choleraic cases occurred during the period extending from the latter part of last November to the close of the succeeding month. According to the report of the *Daily Times*, this woman, "just before she became ill, had with her own hands cleaned out the privy belonging to the house, and had used the contents as manure in planting potatoes in the garden." At noon, although feeling somewhat indisposed, she partook of a frugal dinner, complained of pains about 3 P. M., was in a state of collapse at 4 P. M., and died on the 1st inst., at 11 A. M. An autopsy revealed a general healthy condition of all the organs except the stomach and intestines, in which "the rice-water secretions" were abundant.

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Joshua Jenkins, aged seven months, a son of the above, died at the Battery barracks, on the 4th instant, of the same disease.

Another case made its appearance, on the 2d instant, at 115 Mulberry Street, in a five-story, double tenement house, through the centre of which runs a hall four feet wide. The rooms measure fifteen feet by eleven, and the bed-rooms attached, each about eleven by seven, with one small window apiece. These windows, on the side of the house adjoining No. 113, open into a recess seven feet by two feet, which exists between the two houses. "This recess," to quote the language in full of Dr. Southack, from whose report we have condensed the above description of the premises, "is in a most filthy condition. Slops and offal from both 113 and 115 are freely thrown there, and the inhabitants bitterly complain of the odour arising therefrom. The lower windows on the side adjoining 117 Mulberry also open into a recess between the two houses. This is also in a vile condition; so much so that the inhabitants in some of the rooms have nailed up the windows permanently to escape the stench."

Add to this the custom borrowed from untutored animals confessedly low in the scale, of depositing feces in the halls, and the picture of this haunt of the lowly may be pronounced complete.

Thus the patient, Kate Dooley, aged 35 years, who had been whitewashing on the 1st throughout the entire day, after a repast upon some bread and meat at 3 P. M., was surrounded by the very influences to invite the vomiting and purging which seized her the next day at 2 o'clock A. M. She, however, rapidly recovered.

Efficient sanitary measures have been adopted to arrest the spread of the disease, which, in these instances at least, is not traceable to any violations of quarantine laws.—*Medical Record*, May 15, 1866.

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Cholera in Germany.—A letter from the Grand Duchy of Luxembourg says: "The greatest alarm prevails throughout this district, owing to the dreadful ravages made by cholera at Diekisch and the surrounding villages. Between the first and the third the deaths amounted to 100 out of a population of only 2000 souls. All the means hitherto employed to arrest the progress of the epidemic have been in vain. To purify the air large fires have been made in the street, and the houses inundated with chloride of lime, but without effect. All who can are leaving the place. The disease made its first appearance at Clemenci, near Arlon, to which village, according to report, it was brought by a workman from Paris. It soon spread to Mamer, Erich, Dommeldange, Weimerskirch, Luxembourg, and Diekirch apparently following the water-courses.—*Brit. Med. Journ.*, April 14, 1866.

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Quarantine and Cholera.—The tendency of professional men in this country [England] to repose less and less faith, or altogether to disbelieve in the efficaciousness of quarantine as a defence against cholera has been rudely shaken by the circumstances attending the diffusion of the disease since the beginning of 1865. In some instances the pestilence is known to have been taken on board ship at Alexandria, to have been carried in an active state over hundreds or thousands of miles of sea-route, to have been landed in a seaport town in another country, and there to have assumed a formidable and most fatal development. In other instances the outbreak of the malady in coast towns of Europe has been preceded by events which could leave little doubt that the disease had been imported amongst their population in a like manner and from the same source. Finally, the whole history of the progress of the epidemic, from its point of origin to its extremest limits of dispersion, indicated the dissemination of the disease from Alexandria to the shores of the continent in the first place, and its subsequent extension from the centres of infection thus set up.

The appearance of the malady at Southampton last autumn, and the recent importation of cases into this country from Rotterdam, as well as transmission of the cholera-poison across the country to receive a deadly development out at sea and in the ports of the New World, have seemingly clinched the lesson taught by the previous progress of the epidemic, and awakened a serious doubt of the wisdom of that want of faith in quarantine which has grown among us.

If quarantine were an abstract question, it might well be believed, in face of the present epidemic of cholera, that preventive medicine in this country had overreached itself and fallen disgracefully. But quarantine is a practical subject, and it must be

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judged entirely by its results. Now these, in the recent diffusion of cholera, differ in nowise from the results observed in previous migratory epidemics of the disease. Quarantine, as practised in the Mediterranean and the Black Sea, has not offered any impediment to the spread of the epidemic. It has proved almost solely, as in previous outbreaks, a means of official exaction and commercial loss. The asserted exemption of Sicily and Greece from the epidemic is unfortunately of little value. There is no trustworthy evidence to show that the exemption arose from the stringent quarantine maintained against infected ports. Cases of cholera are known to have been brought into Greek and Sicilian waters, and not to have spread beyond the lazarets. But cases of cholera are equally known to have been imported into sundry coast towns and well-populated districts elsewhere irrespective of quarantine (Trieste, for example), and the disease has not extended. The one series of facts must be read with the other.

In 1859, when cholera prevailed widely in Western Europe, numerous cases of the disease were imported into our eastern seaports. There were also slight local outbreaks at Wick, in Caithness, and Glass Houghton, in Yorkshire, but the malady did not spread, although no quarantine was maintained.

An attentive study of the diffusion of the present as of previous epidemics shows that the difficulties in the way of excluding the disease from a country are, for the time being at least, insuperable. This is proved in a remarkable manner by the circumstances attending the outbreak of the disease on board the emigrant ships *England* and *Virginia*, and the case imported into Bristol a fortnight ago. The first news of the appearance of cholera in Rotterdam reached England on the 22d ult. On the same day a sailor landed in London (probably from the steamer bringing the news), who, in the course of the day, while journeying to Bristol, was struck down with the disease. He died the next morning. Three weeks before, a body of emigrants, coming from Holland by way of Rotterdam, had traversed the kingdom from Hull to Liverpool. They were laden with cholera-poison, as their subsequent history on board the ship *England* clearly shows. Other emigrants also followed, burdened with the infection. In fact, a stream of cholera carriers had poured into this country before the least suspicion existed here, or even in Rotterdam itself, that the disease was being developed, and on the eve of breaking out in Holland.

In like manner the diffusion of cholera from Alexandria to Europe, last year, had taken place, and the disease had effected a lodgment on the shores of the continent before it was known to exist in Egypt, or contemporaneously with the first news of its appearance there.

It seems impossible to devise any trustworthy measures by which such insidious but all-important migrations of the epidemic could be successfully met. Practically our efforts must be limited to the prevention of a multiplication of foci of infection by the importation of cases from without.—*Lancet*, May 12, 1866.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

American Medical Association. Abstract of the Proceedings at its Seventeenth Annual Session held in the City of Baltimore on the 1st, 2d, 3d, and 4th of May, 1866.—The Association convened at Concordia Hall in the city of Baltimore on the first of May; the President, Dr. D. Humphreys Storer, in the chair.

Dr. C. C. Cox, on behalf of the Committee of Arrangements, gave a warm welcome to the Association in a neat address. Dr. Cox then offered several documents exculpating Dr. M. A. Pallen, of Missouri, from charges brought against him at the meeting in Boston and for which he had then been hastily expelled. These documents were referred to the Committee on Medical Ethics, who subsequently reported as follows, which report was adopted:—

The committee to whom were referred the papers in relation to the expulsion of Dr. Montrose A. Pallen at the meeting of the Association in Boston, respectfully report:—

That they have examined the documents and evidence referred to the committee, embracing papers indorsed by Gen. U. S. Grant, the Vice Consul of the United States at Montreal, and many citizens of Missouri, and are fully satisfied that the statements on which his expulsion was based were entirely unfounded; and, therefore, regretting the injustice done, both to

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Dr. Pallen and the Association, we recommend the following resolution:—

"*Resolved*, That the preamble and resolution adopted by the Association at its annual meeting in Boston, June, 1865, expelling Dr. Pallen, be hereby rescinded; and that Dr. Montrose A. Pallen be restored to his previous membership in the Association."

The President, Dr. Storer, delivered the annual address, the subject of which was Specialities in Medicine. It was an exceedingly able one, and commanded the most respectful attention. The thanks of the Association were tendered to him therefor, and a copy requested for publication.

The following standing committees presented their reports, which where disposed of as follows:—

On Quarantine—Dr. W. Jewell, of Pennsylvania, chairman, reported progress and was continued.

On So-called Spotted Fever—Dr. J. J. Levick, of Pennsylvania, chairman, presented a report which was referred to the Section on Practical Medicine and Obstetrics.

On Tracheotomy in Membranous Croup—Dr. A. N. Dougherty, of New Jersey, chairman, the subject was referred to the Section on Surgery.

On Rank of Medical Corps in U. S. Army—On motion of Dr. Cox the subject was referred for discussion to the Association in general session.

On Alcohol and its Relations to Man—Dr. G. E. Morgan, of Maryland, chairman, presented a report which was referred to the Section on Hygiene.

On Progress of Medical Science—Dr. J. C. Smith, of New York, chairman, reported progress, and was continued.

On Diphtheria—Dr. H. D. Holton, of Vermont, chairman, made a report which was referred to the Section on Practical Medicine.

On Comparative Value of Life in City and Country—Dr. E. Jarvis, of Massachusetts, chairman, reported progress and was continued.

On Drainage and Sewerage of Cities—Dr. W. Jewell, of Pennsylvania, Chairman, reported progress and was continued.

On Disinfectants—Dr. E. M. Hunt, of New Jersey, presented a report which was referred to Section on Hygiene.

On Compulsory Vaccination—Dr. A. N. Bell, of New York, Chairman, reported progress and the subject was referred to the Section on Hygiene.

On Causes and Pathology of Pyæmia—Dr. J. J. Woodward, U. S. A., Chairman, presented a report which was referred to the Section on Surgery.

On Use of Plaster of Paris in Surgery—Dr. J. L. Little, of New York, Chairman, reported progress and was continued.

On the Etiological and Pathological Relations of Epidemic Erysipelas, Spotted Fever, Diphtheria, and Scarlatina—Dr. N. S. Davis, of Illinois, Chairman, presented a report which was referred to the Section on Meteorology, etc.

The committees on Ligature of Subclavian Artery—on Milk Sickness—on the Relation which the Doctrine of Correlation and Conservation of Forces bears to the Physiological and Pathological Condition of the Human System—On the Effect of Civilization on the Duration of Human Life—on Strangulated Hernia—on Meteorology, Medical Topography, and Epidemics failed to report.

The report of Dr. S. Littell, of Pennsylvania, on the Relations which Electricity Sustains to the Causes of Disease presented at the last meeting was referred to the Section on Hygiene.

The following voluntary communications were presented and disposed of as follows:—

On Luxation of the Hip-Joint—By Dr. L. A. Sayres, of New York, referred to the Section on Surgery.

On Extirpation of the Uterus, and also one on the Clamp Shield, an instrument designed to lessen the danger of extirpation of the uterus by abdominal section—By Dr. H. R. Storer, of Massachusetts, referred to the Section on Surgery.

On Impurities in Water Pipes—By Dr. J. C. Draper, of New York, referred to the Section on Hygiene.

On Permanganate of Potassa as a Purifier—By Dr. Craige, D. C., referred to the Section on Hygiene.

On a New Apparatus for Fractured Patellæ—By Dr. J. M. Boisnot, of Pennsylvania, referred to the Section on Surgery.

On Local Anæsthesia, and one on Paralysis of the Vocal Cords and Aphonia—By Dr. J. S. Cohen, of Pennsylvania, which were referred to the Section on Practical Medicine.

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On Aluminium in Dentistry—By Dr. A. Mason, of Massachusetts, referred to Section on Chemistry.

On Extirpation of Lower Jaw—By Dr. W. C. Enos, of New York, referred to Section on Surgery.

On Lithotomy—By Dr. J. C. Hughes, of Iowa, referred to Section on Surgery.

On Periosteal Flap Amputations—By Dr. McGee; and one on Diagnosis of Diseases of the Larynx—By Dr. Elsberg, of New York, both referred to the Section on Surgery.

The reports of the Committee on Publication and of the Treasurer were read and accepted.

On motion of Dr. W. Hooker, of Connecticut, it was unanimously

Resolved, That no report, or other paper, shall be presented to this Association, unless it be so prepared that it can be put at once into the hands of the Permanent Secretary, to be transmitted to the Committee of Publication.

Dr. C. A. Lee, of New York, presented the report of the Standing Committee on Medical Literature.

Dr. Brown-Séquard gave a lecture on the Treatment of Functional and Organic Diseases of the Nerves, and the thanks of the Association were presented to him for his interesting, able, and eminently practical lecture, and he was requested to furnish an abstract for publication.

In accordance with the report of the Committee on Prize Essays, the first prize was awarded to Drs. W. F. Thoms, of New York, for his Essay on Health in Cities, and the second prize to Dr. S. R. Percy, of New York, for his essay on Digitaline.

The committee reported that they had also received a valuable paper on *Angular Curvature of the Spine*, the author of which through an inadvertent violation of the rules had lost the right of competing for the prize; the committee, however, laid the paper before the Association, and recommended its reference to the Section on Surgery to determine the propriety of its publication, which recommendation was adopted.

On motion of Dr. Taylor, of Iowa, a resolution was adopted for the appointment by the President of the Association of a committee consisting of one member from each State to memorialize Congress for an appropriation to publish the reports and documents of the Surgeon-General of the United States.

Appropriate resolutions were adopted expressive of the profound regret felt by the Association at the loss which they had sustained in the death of their associates, Drs. James A. Couper, of Delaware, Joseph Mather Smith, M. D., of New York, and Prof. D. L. McGugin, of Iowa.

Dr. Mayburry, of Pennsylvania, on behalf of the Montgomery County Medical Society, of the State of Pennsylvania, presented a preamble and resolutions expressive of regret that some of the professors in medical colleges in their State have kept aloof from county medical societies, and expressing their opposition to any college being represented by a professor who is not a member of a county society, which was referred to the committee on Medical Ethics, who subsequently reported recommending a reference of the whole matter to the medical society of the State, which was adopted.

Dr. Worthington Hooker, of New Haven, on behalf of a majority of the Committee on Medical Ethics presented an extremely able, highly interesting, and high toned report on the subject of Specialities in Medicine. A minority report signed by Dr. H. J. Bowditch was also presented. Both were referred to the Committee on Publication.

Dr. Marsden, of Quebec, made a lengthy communication on Cholera, in which he stated his belief in the communicability of the disease and the efficiency of a rigid quarantine in preventing its propagation. This communication gave rise to a considerable discussion, but the Association refused to commit itself as a body to any expression of opinion on the subject.

The Committee on Nominations reported the following officers and committees for 1866-67, which report was accepted:—

President—H. F. Askew, Delaware.

Vice-Presidents—W. K. Bowling, Tennessee; J. C. Hughes, Iowa; H. J. Bowditch, Massachusetts; Thos. C. Brinsmade, New York.

Permanent Secretary—William B. Atkinson, Pennsylvania.

Treasurer—Caspar Wister, Pennsylvania.

Assistant Secretary—W. W. Dawson, Cincinnati.

Committee of Arrangements—Drs. John

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A. Murphy, James Graham, R. R. McIlvaine, J. P. Walker Unsicker, William T. Brown, William B. Done, Cincinnati.

Committee on Medical Education—Drs. S. D. Gross, D. F. Condie, John Bell, H. J. Bigelow, Charles A. Pope.

Committee on Prize Essays—Drs. Francis Donelson, Maryland; J. Simpson, U. S. A.; C. C. Cox, E. Warren, H. C. Van Bibber.

Committee on Publication—Drs. F. G Smith, H. F. Askew, Wm. Mayburry, W. B. Atkinson, H. R. Storer, Casper Wister.

Committee on Medical Literature—Drs. A. C. Post, Jas. Anderson, H. D. Noyes, T. G. Thomas, Stephen Smith, all of New York.

Committee on American Medical Necrology—Dr. Wood, Delaware; Jno. L. Callender, of Penn.; Jno. Blaine, New Jersey; R. D. Arnold, Georgia; A. Lopez, Alabama; G. Dowell, Texas.

Committee on Climatology—Drs. C. W. Parsons, Rhode Island; P. A. Stackfold, N. H. Thomas, W. Logan, Cal.; R. C. Hamill, Ill.; J. C. Weston, Me.; P. H. Coltin, Conn.; H. Jones, W. Thomas Antiselle, D. C.; J. W. H. Bake, Iowa; A. Sayer, Mich.; O. S. Mahon, Md.; J. W. Russell, Ohio; D. F. Condie, Penn; Howard Townsend, N. Y.; U. Harris, Georgia; G. Engleman, Missouri; R. Miller, Alabama; E. D. Fenner, Louisiana; G. Dowell, Texas.

The committee also reported in favour of the next meeting of the Association being held in Cincinnati, Ohio, on first Tuesday in May, 1867, which was adopted.

The following resolution was adopted:—

"*Resolved*, That the Association most earnestly request the medical colleges of the country to hold a convention for thoroughly revising the whole system of medical college instruction for the purpose of establishing more uniformity of time, and a more systematic course of instruction for the whole."

The following committee were appointed to carry out this resolution: Drs. N. S. Davis, Ill.; W. Hooker, Conn.; Geo. C. Shattuck, Mass.; M. B. Wright, Ohio; and S. D. Gross, Penn.

Dr. C. C Cox presented a report on Rank in the Army, which was referred to the Committee on Publication, and then offered the following resolution, which was adopted:—

"*Resolved*, That the President of this Association bring before the notice of the military committees of both houses of Congress, at as early a period as possible, the present status of medical men in the military service of the United States, and urge upon them that in the army medical bills, under consideration of Congress, the interests of the medical profession shall be so regarded that the medical staff in the service shall, numerically considered, receive the same rank and command as officers in other staffs of the army are justly entitled to."

A committee was appointed on Fractures of the Spine, Dr. Brown-Séquard, Chairman.

On motion of Dr. Garrish, of New York, it was

"*Resolved*, That all the members of this Association urge upon the legislatures of the various States the great importance of making it compulsory that all marriages, births, and deaths be registered."

On motion of Dr. H. R. Storer, of Massachusetts, it was

Resolved, That the Association recommend to the several medical and law schools of the country the establishment of an independent chair of medical jurisprudence, to be filled, if possible, by teachers who have studied both law and medicine, attendance upon one full course of lectures from whom shall be deemed necessary before the medical degree is conferred.

Resolved, That while the Association regrets that the Association of the Superintendents of American Asylums for the Insane has not yet thought fit to unite itself more closely with the representative body of American physicians, it still is of opinion that such union is for their mutual and reciprocal advantage. and that it ought to be effected without further delay.

The constitution was amended so as to increase the annual assessment of members from three to five dollars.

After the adoption of a vote of thanks for the hospitality and courtesy with which they had been entertained in Baltimore, the Association adjourned.

The meeting is said to have been a very interesting one, largely attended, nearly 350 members being present, and the proceedings were of a very instructive character.

In a social point of view the meeting was also highly agreeable. During the evening

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of the first day of the meeting a concert was given to the members of the Association by the Committee of Arrangements at Concordia Hall. The second evening was spent at soirees at the residences of some of the members of the profession. On the third evening the members were entertained with a banquet by the corporate authorities of the city at which entertainment were present the principal notabilities of the city. On the last day the Association made an excursion to Annapolis by special invitation of his excellency the Hon. Thomas Swann, Esq., Governor, who gave them a cordial reception and a sumptuous entertainment.

—

Convention of Representatives of Medical Colleges of the West.—A meeting of delegates from the Medical Colleges of the West, for the purpose of agreeing upon a more uniform rate of lecture fees, was held in Cincinnati, on the 24th of April last. Prof. N. S. Davis, of Chicago, was appointed chairman, and Prof. G. C. G. Weber, of Cleveland, secretary. After a free interchange of views, the following preamble and resolutions were unanimously adopted:

Whereas, the cause of medical education requires the establishment and maintenance of permanent colleges, with all the necessary means for illustration and practical instruction, as well as competent teachers, thereby involving a large annual expenditure of money, therefore,

1st. *Resolved*, That a reasonable demand for lecture fees is required by the best interests both of the colleges and those who patronize them.

2d. *Resolved*, That competition among Medical Colleges, to be beneficial to the profession and the cause of medical science, should be based *entirely* on the ability of those engaged as teachers, and the completeness of their curriculum, with the facilities for practical demonstrations accompanying it, and not on *mere pecuniary* differences in the cost of attendance; and, hence, the fees charged in all the Medical Colleges, in a given section of country, should be uniform, or so near uniform that the actual cost of attendance in the different colleges shall be practically equal.

3d. *Resolved*, That inasmuch as only a limited number of students can be properly accommodated or educated in any one college each year, any State which, with enlightened liberality, should so endow the medical department of its State University as to make education therein free, ought to so far regard the interests of the institutions of other States, as to limit the freedom of its instruction to the citizens of its own State.

4th. *Resolved*, That in the opinion of the college faculties here represented, the aggregate annual fees for instruction in each college should be not less than $105 for each student.

5th. *Resolved*, That a committee of three be appointed to communicate the foregoing views to the faculties of the several medical colleges not here represented, and also to the Regents of the University of Michigan, with a view to the ultimate removal of such obstacles, legal or otherwise, as may be in the way of the voluntary adoption of the sum named in the fourth resolution, or some other sum near it, as a uniform standard of college fees; and to take such measures as they may deem necessary, and report to a future convention called for that purpose.

6th. *Resolved*, That the colleges here represented would, in the opinion of the delegates present, be willing to lengthen their annual lecture terms to six months, if, by so doing, practical uniformity in the standard of fees could be fully secured.

—

Galveston Medical College. Soule University.—The class in this school during the session 1865–6, numbered 31, and at the commencement, April 4, 1866, the degree of M. D. was conferred on 4 candidates.

—

Preston Retreat.—The late Dr. Jonas Preston, appropriated by will the larger portion of a valuable estate to the founding of an hospital, in which INDIGENT MARRIED WOMEN OF GOOD MORAL CHARACTER, residents of the City and County of Philadelphia, and County of Delaware in Pennsylvania, could be provided with suitable attendance and comfort during the period of their confinement.

From a sudden fall in the value of the investments, after the hospital building was erected, it was found that there were not sufficient funds to maintain the institution. We are happy to learn that the income of the estate is now sufficient to provide for as many patients as can be accommodated in the large building of the Retreat, and that the Managers have made all arrangements for opening

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the house; and patients are now occupying some of the wards.

Application for admission should be made to Dr. Wm. Goodell, Physician in charge, at the Retreat, Hamilton Street between Twentieth and Twenty-first Streets, who can furnish all information in regard to regulations for admission, &c.

—

Smallpox among the Refugees and Freedmen at Charleston.—We have been favoured with the following report of cases of smallpox treated at the Smallpox Hospital for Refugees and Freedmen, at Charleston, from January 1, 1866, to May 1, 1866.

	Total.	Mild cases.	Confluent cases.	Deaths.
Number of patients treated in this hospital since January 1, 1866, of whom it is not known whether they were vaccinated or not	68	46	22	15
Number of patients known to have been vaccinated successfully prior to the attack	256	174	82	21
Number of patients known not to have been successfully vaccinated prior to the attack	194	29	165	72
Number of cases of second attack of smallpox	4	2	2	1
Total number of cases treated since January 1, 1866, to May 1, 1866	522	251	271	109
No. cases occurring from—				
1 to 5 y'rs after vaccination	106	82	24	9
5 " 10 " " "	38	33	5	
10 " 15 " " "	12	6	6	
15 " 20 " " "	46	24	22	4
20 " 25 " " "	19	14	5	1
25 " 30 " " "	22	10	12	6
30 " 35 " " "	2	1	1	
35 " 40 " " "	1		1	
40 " 45 " " "	1		1	
45 " 50 " " "	1	1		
50 " 55 " " "				
55 " 60 " " "	1	1		

Respectfully submitted,

(Signed), S. C. BROWN, M. D.,
City Physician, in charge of Smallpox Hospital.

GEORGE S. PELZER,
A. A. Surgeon U. S. Army,
In charge of Health Department,
Charleston, S. C.

—

Health of Philadelphia.—Previously to every epidemic of cholera which has prevailed in this city an epidemic constitution of the atmosphere has always manifested itself in an increase of deaths from bowel affections. No such condition of things seems to exist at the present moment. The whole number of deaths from cholera infantum, diarrhœa, and dysentery, for the week ending May 26, was only six, in a mortality from all diseases of 238.

—

Death from Chloroform.—An instance of this has lately occurred in the southern part of the city of Philadelphia. It appears from the evidence at the inquest that the chloroform was given at the request of the patient to produce anæsthesia during the extraction of a tooth, she stating that she had previously taken it without injurious effects. In a minute or two after inhaling the vapour she turned deadly pale, went into convulsions, and soon died. The chloroform seems to have been pure, as the dentist testified that he had given a larger inhalation of the same to a child on the same day. On *post-mortem* examination all the organs were found perfectly healthy.

—

OBITUARY RECORD.—It is with deep regret that we have to record the death of Prof. JOSEPH MATHER SMITH, which took place in New York on the 22d of April last in the 78th year of his age. Dr. Smith was a most eminent and sound practitioner, admirable teacher, and a high-minded and honourable gentleman.

—— In New Orleans, April 2d, 1863, ANTHONY PENISTON, M. D., late Professor of Anatomy in the New Orleans School of Medicine.

—— In New Orleans, December 2, 1863, THOMAS PENISTON, M. D., late Emeritus Professor of Clinical Medicine in New Orleans School of Medicine.

—— In New Orleans, April, 1866, E. D. FENNER, M. D., one of the editors of the *Southern Journal of the Medical Sciences*, and well known to the Profession throughout the United States by his numerous valuable literary contributions to medical science.

—— At Charleston, S. C., on the 7th of May, 1866, HENRY R. FROST, M. D., Professor of Materia Medica in the Medical College of South Carolina.

—— In Philadelphia, May 11, 1866, in the 35th year of his age, CHARLES PENDLETON TUTT, M. D., one of the consulting physicians of the Philadelphia Hospital.

At a meeting of the Medical Board of the Philadelphia Hospital, the following resolutions were unanimously adopted:—

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Resolved, that the Medical Board have heard with feelings of profound sorrow, of the death of our colleague Dr. Chas. P. Tutt, from disease contracted in the wards of the hospital.

Resolved, that in Dr. Tutt we always found the polite gentleman, the agreeable associate, the zealous student, and the attentive and skilful practitioner of medicine, always at his post of duty, despite its dangers and responsibilities.

Resolved, that the Medical Board tender individually and collectively to the family of Dr. Tutt our deepest sympathy in their affliction, and assure them that we will always cherish the memory of our deceased associate with heartfelt gratification.

Resolved, that a copy of the above resolutions be transmitted to the family of Dr. Tutt, the Board of Guardians, and that they be published in the medical journals of our city, duly attested by the President of the Medical Board. ALFRED STILLÉ,
President of the Medical Board.

FOREIGN INTELLIGENCE.

Richardson's Method of Producing Local Anæsthesia.—In our last number, page 77, we mentioned that Cæsarean section had been painlessly performed under the influence of local anæsthesia by Dr. Richardson's method. We now learn that the patient has entirely recovered, and during her convalescence did not suffer from a single untoward symptom. Mr. Spencer Wells and Mr. Braddon have each operated for ovariotomy, local anæsthesia being induced by Dr. Richardson's method In the latter case it turned out on removing the cyst that the adhesions to the intestines were firm and extensive, so that the operation was tedious and difficult. But wherever the knife had to go the ether spray was directed, and from the first to the last the pain experienced and expressed was almost *nil*. This anæsthetic method has also been successfully used by Dr. Thorburn for the operation for femoral hernia. The patient made a good recovery.—*Med. Times and Gaz.*, April 28, 1866.

Dr. Richardson's New Method of Applying Caustic and Styptics to Raw Surfaces.—Dr. RICHARDSON has lately described a new method of applying caustics and styptics to raw surfaces, in conjunction with the ether spray. He mentions two hæmostatic ethers, one prepared by dissolving tannin in absolute ether and afterwards treating it with xyloidine; this he terms the xylo-styptic ether. The other is prepared by dissolving perchloride of iron in ether; this is termed the ferro-styptic ether. He has also invented a caustic ether, by the combination of hydrofluoric acid with the ether. An ozonized ether, when injected into an apartment in the form of spray, renders the atmosphere pure, and the presence of the ozone can be demonstrated by Schonbein's test papers.

Amputation at the Hip-Joint.—Three successful cases of amputation at the hip-joint, in London hospitals, are reported at the same time by Mr. Erichsen, Mr. Holmes, and Mr. H. Lea.

Influenza in London.—It is stated in a late No. (May 12) of the *Medical Times and Gazette* that "influenza is very prevalent in London at present, and is one of many other signs that forebode a probable invasion of cholera. The symptoms we have noticed are shivering and malaise, followed by dry heat of skin (but in one or two cases in which the thermometer was used it did not indicate any abnormal rise of temperature), great sneezing and defluxion, tickling cough, and muscular pains. Children seem to be greater sufferers than adults. The old-fashioned stimulating diaphoretic, composed of liq. am. acet. and nitrous ether, with conium for the cough and plenty of nourishment, seem to have been successful remedies, and the epidemic has been extensive rather than severe.

The Coming Summer.—Dr. Hjaltalin states that in Norway the mean temperature has been five degrees below the usual mean of winter, this must necessarily be followed by a tremendous ice drift. The Atlantic will receive the drifting in blocks which will melt, and Dr. H. predicts will be the occasion of much rain and hail accompanied by a fall of the mean temperature of the coming summer.—*Med. Times and Gaz.*, May 1, 1866.

OBITUARY RECORD.—Died, in London, April, 1866, of suppurative inflammation of the kidneys, aged 72, BENJAMIN GUY BABINGTON, M. D., F. R. S., Physician to Guy's Hospital, the founder of the Epidemiological Society, and for several years its President.

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CHOLERA.

Cholera.—The views of Prof. Geo. Johnson, in regard to cholera, are entitled to a respectful consideration, not only from the great ingenuity with which they are enforced, and the learning and high position of the writer, but also because they have been accepted as correct by a number of eminent practitioners. In our last number we ventured to point out some facts which appeared to us to be irreconcilable with his doctrines, and we shall now endeavour to indicate some others, which seem to us inexplicable by his hypothesis.

Prof. Johnson's views are based upon three propositions, viz: 1st. That cholera is produced by a poison which enters into the blood. 2d. That this poison acts first on the capillary arteries of the lungs, causing a spasm in them which prevents the blood from reaching these organs. 3d. That the discharges from the bowels are the result of an effort of nature to eliminate the poison; and lastly, he concludes that the proper treatment of the disease consists in aiding nature in her efforts.

Each of the above propositions appears to us to be purely hypothetical, and the legitimate deduction from his premises eminently dangerous.

We will examine these propositions in detail.

1st. *As regards the existence of a poison in the blood.*—The existence of such poison has never been demonstrated, and without denying that such a poison *may* be a reality, it must be conceded that there are some facts in the history of the disease not easily explicable by such an hypothesis.

The prevalence of the disease in any one locality as an epidemic has, generally, a limited duration—usually about from four to six weeks—it has its regular period of increase, climax, and decline. The first cases are the most malignant, and after the disease has reached its climax it then decreases in violence and ceases. Now, were

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the cholera propagated by a poison, and especially were this poison the product of the dejections, as it is, in some way, usually believed to be, does it not seem strange that at the commencement of an epidemic when there is less of this poison generated the disease should be most violent and its victims most numerous; and at its climax when there is most of this poison produced, that the disease should then decrease and gradually cease?

The only attempt to explain this is by the supposition that the disease ceases because there are no more subjects susceptible to the influence of the poison. This is an endeavour to sustain one hypothesis by another equally without foundation.

Dr. William Baly, in his elaborate report to the Royal College of Physicians, remarks:—

"Moreover, there are reasons for believing that the cessation of the disease in a town is *not* owing to all persons susceptible of it having already been exposed to its cause and affected by it. In the first place, the disease may cease in a town, or a large public institution, and then after a short interval be renewed—as many persons suffering from it, in this renewed outbreak, as in the former one. An example of this is met with in the case of Sunderland, where a slight attack, between the months of October, 1848, and January, 1849, was succeeded, after more than a month's complete interval, by a second attack of far greater severity; this again being followed, after two months' interval, by a third outbreak of a still more serious character. It is not likely that, in this instance, the disease ceased in the two earlier outbreaks, because all the persons still susceptible of the disease, through some strange concurrence of circumstances, failed to be exposed to the contagious influence." (p. 50.)

2d. *With regard to the spasm of the pulmonary capillaries.*—This is not susceptible of demonstrative proof, and all that Prof. Johnson can adduce in support of the hypothesis is what he calls the anæmic condition of the lungs, found after death. If the choleraic poison acted primarily on the pulmonary arteries it might be reasonably supposed that it would occasion some recognizable lesion. But Drs. Pennock and Gerhard, Foy, Gendrin, Bouillaud, Leudet, and indeed, nearly all observers represent the lungs as healthy. Dr. William Gull, in his admirable report to the Royal College of Physicians in treating of the post-mortem appearances of the lungs, states:—

"In the majority of cases fatal in the algide stage, no other morbid change existed than engorgement of the lower and posterior parts of the lungs with dark blood. In some instances this was so complete as to cause portions of the pulmonary tissue, to sink in water. The anterior and superior parts were drier than natural. In only one case reported to us was there any degree of œdema. In certain cases the *pulmonary tissue throughout was full of dark blood.*

"The bronchial tubes were normal in appearance, or their mucous membrane was congested. They contained a small amount of frothy serum, sometimes tinged with blood." (p. 38)

Leudet states: "The lungs were commonly healthy, in two instances there was pulmonary apoplexy; frequently hypostatic congestion," "bronchi congested."

The above facts are subversive of Prof. Johnson's hypothesis.

3d. *As regards the dejections being an effort of nature to eliminate a poison from the blood.*—This proposition is as purely hypothetical as the preceding ones. The existence of such a poison, either in the blood or in the dejections, has not been proven, and if it were it would not be giving much credit to nature for sagacity, in supposing that she resorted to so dangerous a means of getting rid of this poison as by excessive vomiting and purging, whereby the blood is deprived of its nutritive materials and its most important anatomical element—water—leaving the remaining portion of the sanguineous fluid utterly unfit for the purposes of life.

Even admitting the existence of a poison in the blood, it is by no means certain that it is possible to eliminate it by purgatives or by any effort of nature.

Dr. C. Handfield Jones, in a recent article (*British Medical Journal*, May 5, 1866), remarks: "The analogy of most other diseases of a toxic kind would lead us to think that the morbific action is to be counteracted rather by endeavours to prevent its morbid effects, or to strengthen and hold up the vital forces against it, than by any process of elimination. Thus we deal best with malarious disorders, continued fevers, influenza, erysipelas, snake-bite, and most cases of the exanthemata. In fact, except

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perhaps in the cases of saturnine and uræmic intoxication, I doubt whether we have any power whatever to procure the separation of a poison from the system. How obstinately the syphilitic clings to its victim!"

All clinical experience is equally opposed to this doctrine. Our own observation in two epidemics and that we believe of all practitioners, shows that in the early stages of cholera no more fatal course can be persued than the administration of active cathartics, and especially such as are most eminently evacuant, as those belonging to the saline and hydragogue class. They precipitate the patient speedily into collapse. A large dose of croton oil will bring on phenomena hardly distinguishable from those of cholera.

Dr. Goodeve, in a recent article on epidemic cholera in Reynold's *System of Medicine*, enumerates among the causes of cholera the noxious effects of purgative medicines. He says "numerous Indian writers recognize the mischief produced by these. I believe that this is not confined to the saline and hydragogue purgatives only. I have seen milder purgatives followed by cholera."

The most judicious and experienced practitioners of the present day recommend that the diarrhœa be arrested as early as possible —except where the bowels are filled with undigested matter, when a very mild laxative may be premised — by perfect rest, opiates, volatile and diffusible stimulants in moderate doses, mild diet, as beef tea, arrowroot, etc., and small portions of ice or cold water.

Prof. Johnson, in a reply to Dr. Jones' article, published in the *British Medical Journal* for 12th May, which came to hand after this article was in type, makes an admission which is virtually an abandonment of his doctrine of elimination, though of course he does not so intend it. Thus he says:—

"It is an indisputable fact, that a large proportion of cases of choleraic diarrhœa will terminate in recovery under the use of the simplest possible remedies which are wholly free from astringent properties. Thus the late Mr. Wakefield, who was surgeon to the Middlesex House of Correction during the last epidemic of cholera in 1854, stated in a letter to the *Times*, that he had treated upwards of 150 cases of choleraic diarrhœa amongst the prisoners by thirty grains of sesquicarbonate of soda in a wineglasful of strong mint tea. The dose was repeated every half hour. No fatal case occurred. 'The disease was arrested with a rapidity that was quite magical,' and he had rarely occasion to administer the dose more than three times before the sickness and *diarrhœa was arrested*. While under treatment, the patient was confined to a diet of beef-tea, cocoa, or arrowroot; nothing solid, not even bread, being allowed while the diarrhœa continued. Now, this plan of treatment, which was remarkably well suited for allowing full play to the curative efforts of nature, can scarcely be supposed to have had any direct remedial effect, and it was certainly not an astringent treatment; yet the results were in the highest degree satisfactory."

Now this treatment of Mr. Wakefield's cannot be claimed to have been an eliminative one, and surely did not promote evacuations from the bowels, but was calculated to, and *did check them*. If then this treatment is highly satisfactory to Prof. Johnson, it certainly is so to us, and perfectly harmonizes with the views we have been endeavouring to inculcate.

In our next number we shall endeavour to show that it is upon the mucous membrane of the intestinal tube that the cause of cholera exerts its principal force—that it is there the most constant and greatest pathological changes are found—and that from the excessive secretion from that membrane which deprives the sanguineous fluid of its nutritive materials and most important anatomical element, is due the other prominent phenomena of the disease.

While we greatly distrust the assertion that patients have died of cholera, without having had any evacuation, and that death therefore cannot have been caused by the changes in the blood resulting from the dejections; we are not disposed to deny that the abdominal ganglionic and spinal nervous systems may be simultaneously affected. It is true that we have no conclusive pathological proofs of this—unless the muscular spasms, movements of the muscles after death, and unusually early occurrence of rigor mortis be accepted as such—but there are some clinical facts which lend it support. The writer of this suffered from an attack of cholera in 1832, which though it was arrested before profound collapse resulted, his nervous system was so profoundly affected

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that it was not until after several months that its tone was restored.

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Non-contagiousness of Cholera —We invite attention to the following extract from the very sensible and admirable lectures on cholera by Prof. A. CLARK, lately published in the *Medical Record*, and which appear to us to be conclusive as to the non-contagiousness of cholera.

After quoting some of the strongest facts adduced in support of the belief in the contagiousness of cholera he observes:—

"Such are the facts and cases that are cited in support of the theory of contagion. Now, on the other hand, I will give you some statements and reports that seem to be altogether incompatible with the idea that the disease is communicable by personal contagion.

"It will occur to your own reflections, that if cholera was contagious in Cumberland or in Columbia, it will be contagious everywhere. Typhus is contagious in dwellings and in hospitals, in village and town, in summer and in winter. If the term 'contingent contagion' means anything, it can only be used in relation to the state of the individual—his power to resist contagion. The contagious principle is always the same: contingency cannot be predicated of it; nor is it apposite to say that one affirmative fact outweighs scores of negative ones, for the facts in this case are the occurrences of cholera as described. These are not doubted. The question at issue is, will these occurrences admit of any other explanation than the supposed contagion? If, then, it can be shown that in the broad study of the disease it is not spread directly by emanations from the sick, then the occurrences at Cumberland must have some other explanation, whether we have knowledge enough to make that explanation or not.

"Dr. Morris states that in the Massachusetts State Prison, at midnight, July 27th, 1854, he was called to see a coloured convict suffering from a choleraic attack. *He had been in solitary confinement for seven years.* Before Dr. Morris could get to bed again, he was called to four other prisoners, who had been attacked in different parts of the prison. During the next day, the succeeding night, and the following day, the cases multiplied; so that, in forty-eight hours, two hundred and five were more or less severely affected. The symptoms, Dr Morris says, were 'lividity of the lips, painful cramps, vomiting and purging, cold extremities, and in a few instances suppression of the urine.' On the 27th of July, the day had been very hot, and by a sudden change the night was very cold.

"A man who had been confined seven years in his cell, having no communication even with the prisoners in the institution, is the first to be seized. Suspicion was aroused that the food might be poisonous, but on examination it was found good and wholesome.

"Dr. Trask gives the following account of the outbreak of cholera in the Westchester Poor-House, in 1849:—

"'Up to this time [the time of the outbreak], there had been no case of cholera, so far as I can learn, between this place [White Plains] and New York [twenty-eight miles], nor was there any evidence of its introduction from that city.'

"Suddenly, two men sleeping in beds almost adjoining, were seized with cramps, vomiting, and diarrhœa, after midnight, and before noon, both were dead. On the same day a female at the opposite end of the establishment was similarly attacked, and died in twenty-four hours. There were forty-seven cases, and twenty-seven deaths, among about one hundred and fifty inmates. He soon learned that diarrhœa had been prevailing in the establishment, and that most, if not all of those suddenly attacked had had this affection for some time.

"Parallel instances could be multiplied indefinitely. The whole history of cholera seems to look to another cause than contagion for its origin. As it began in European towns, it was almost always preceded by diarrhœa and colicky pains, and occasionally by cholera-morbus; and when at length it made its appearance, it often seized upon some person or persons who had not been out of town for a long time, between whom and infected places no connection could be traced, living in a very unhealthy locality; and at very nearly the same time other persons were seized in similar negative relations to the outside disease, and who had had no communication with the person first attacked.

"The settlement of the question can be somewhat aided by considering the history of hospitals, and the liability of nurses and physicians to the disease. Dr. Vanderveer gives an account of a little hospital of which he had charge in Franklin Street, in this

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city, in 1854, where, it would seem, were assembled all the conditions necessary to give contagion force, if the disease is communicable in this way. He states that he had two wards, one above the other, the lower 25×35 feet, the upper, 25×30; that there were at times twenty five patients in each of them; that the physicians and nurses slept in small adjoining rooms opening into the wards, and that the doors of their rooms were constantly open for ventilation; that the back yard, 20×30, inclosed by a wall twelve feet high, furnished room for the kitchen, water-closets, autopsy-room, wash-house; and a part of this space was reserved for the dead bodies, which were accumulated once to the number of ten, and till they became offensive. He says that the physicians made seventy-eight *post-mortem* examinations; that their hands, *bathed in the choleraic fluids, were often wounded;* that there were twenty physicians, nurses, and attendants, and that the only one of the twenty who had cholera, or any symptoms of cholera, was a sedan-carrier of temperate habits, who resigned his place because his work was too hard, and five days after was brought to the hospital in a dying condition.

"Here is a little pent-up place with water-closet, dead-house, and the dead piled up in coffins and exposed to the heat and sun, and shut in by a wall twelve feet high; the place full, the wards crowded, and the physicians and attendants, in effect, sleeping in the wards, and yet no one takes the disease. Histories of hospitals which teach the same lesson, few, however so emphatically, could be accumulated in our own country. From the European hospitals the same story comes. They do not all announce complete exemption of the physicians and attendants; but without any exception, the mortality is declared to be moderate—not exceeding what should be ascribed to the general liability, aided by fatigue and loss of sleep, and, on the part of nurses and attendants, often by intemperate habits. The physicians of cholera hospitals are rarely contagionists. The history of cholera hospitals does not sustain the doctrine of contagion; and here, if anywhere, contagion should be demonstrated. Out of almost countless reports that authorize these statements, I select the following table drawn up for the report of Drs. Gull and Baly, referring to the general hospitals of London in 1849.

"Examine this table attentively. Guy's Hospital did not admit persons attacked with cholera; yet one in 163 of its inmates, and one nurse to 490 patients, died of that disease. Five of these institutions admitted the disease, but confined the patients to particular wards. They had an aggregate of 1466 general patients, and 381 deaths from cholera. Multiplying the deaths by two, the usual hospital ratio between cases and deaths, the product, 762, will be about the number of cholera patients admitted. The deaths by cholera among other patients were one in 147, and among nurses one to 371 patients, including those admitted with cholera. Three hospitals, with an aggregate of 750 patients, received probably about 150 persons sick with cholera (deaths seventy-seven), and they were distributed among other patients. The deaths among these other patients were three, or one in 250; and of the nurses only one to 900 patients died.

Hospital.	No. of Patients.	No. of Deaths among Patients admitted with Cholera.	No. of Deaths from Cholera among other Patients.	No. of Deaths by Cholera among Nurses.	How the Cholera Patients were distributed in the Hospital.
Guy's Hospital . . .	490		3	1	No cholera patients admitted.
St. Bartholomew's . .	500	198	1	1	Cholera patients in special wards.
St. Thomas's Hospital	430	66	6	3	" " " " "
London Hospital . .	330	40	None.	None.	" " " " "
University Hospital .	110	81	1	None.	" " " " "
King's College Hospital	96	46	2	2	" " " " "
Middlesex Hospital .	300	30	None.	None.	Distributed among other patients.
St. George's Hospital .	300	11	Two Surgical and one Medical.	1	" " " "
Westminster Hospital	150	37	None.	None.	" " " "

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"Throughout England, indeed all Europe, and from our own country, the testimony is cumulative, and to the best of my recollection nearly uniform from cholera hospitals, that nurses, while they incur the general risks during an epidemic, aside from the effects of fatigue and the excessive use of intoxicating drinks, are not in any degree specially exposed to the disease. I may say, in parenthesis, that I believe there is no fact better established than that intemperate persons are especially liable to cholera. The same statement may be made of those who are employed in rubbing and bathing the sick; of those who empty and cleanse the vessels which receive the discharges; of those who are engaged in transporting the sick, and of those who remove the dead.

"But there is a class of nurses and attendants who are more exposed to the disease than those who are usually employed in cholera hospitals. I refer to such as are engaged in the service of the sick within institutions when the disease has become epidemic. An example or two will make the point clear. In seventeen public lunatic asylums in England (Baly and Gull, 1849) visited by cholera, the total number of patients was 3639; of these 454 were attacked, and 311 died. In the same seventeen institutions there were 407 nurses. attendants and resident officers, of whom eighteen were attacked and six died, or thus—

Attendants attacked, 1 in 23; died, 1 in 68.
Patients " 1 in 8; " 1 in 12.

In the Milbank prison, containing at the time 1107 prisoners, twenty persons were charged with the care of the sick, and there were 178 persons who were by their offices not brought in contact with them, or only occasionally. The deaths among the prisoners were forty-eight, or one in twenty-three; among the nurses one, or one in 20; among other persons (including guards, clerks, etc.), one, or one in 178. Take these two accounts together and it is clear that, so far as the evidence goes, in institutions where cholera is epidemic, nurses are no more liable to the disease than other inmates, making exception for those whose hygienic surroundings were of a more protective character—indeed, in the lunatic asylums, that they were greatly less liable than others; while the one death in the prison makes a very unimportant figure in the statistical estimate on the positive side, though significant in its negative relations.

"It does not appear that physicians who are attending cholera patients are more liable to the disease than others; indeed physicians seem to possess more than usual immunity. The number who have died in this city in the various epidemics is small. I have no statistics at hand to guide me, but I am confident that the percentage of mortality among them is less than among persons in the same social rank unconnected with the profession.

"Dr. Buel says, referring to the epidemic of 1854, of the Centre Street and Twenty-third Street hospitals, 'there were at different times eight or nine medical attendants, several of whom spent their whole time in the hospitals, eating and sleeping there, and no one took the disease;' and then adds, 'among the physicians attending five cholera hospitals, and the various other public institutions in which cholera prevailed extensively, there was not a fatal case, and only two were heard of that had the disease.' How sadly the records of typhus fever contrast with these statements, let the honoured names engraven on the mural tablet in this Hall testify; let the stricken families, that by a dire conscription are forced to contribute, year by year, their brightest ornament to swell the list of professional victims; let the bereaved and mourning, on whom my words now fall like the knell whose echoes have scarcely ceased, bear witness. An epidemic typhus in a hospital, I might also say, spares none; while epidemic cholera in hospitals assails so few, that we find no danger in such service beyond what pertains to the general epidemic influences.

"In considering facts like these, then, we are obliged to modify the opinion that might be formed from such striking instances as those of the Tooting School and those at Cumberland. Such occurrences can, indeed, be explained upon the general doctrine that there was an atmospheric condition that predisposed to the disease, and that the elements of the special poison were present and ready to combine whenever the ferment should be introduced; and that the ferment was in some way brought by the infected persons to each locality. In the case of the Tooting children, however, the disease did not become epidemic,

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strictly speaking, in more than one of the five institutions. In the others, one to several of the 'attendants' suffered from the disease. In these instances the poison may have been imported, and not reproduced. This view receives support from the fact that 'several asylums and workhouses to which the Tooting children were sent were not visited by the disease,' although children died in them.

"There is another point that I must speak of, relating to the communicability of cholera. Drs. Baly and Gull directed particular attention to the question whether washerwomen, who were employed in purifying the clothes soiled by cholera patients, were particularly liable to the disease. They state that they had eighty-four communications relating to this matter; that in general when washerwomen took the disease, they were surrounded by the same influences that produced it in others, and it was difficult to determine whether there was any special danger in their occupation. They sum up by saying there were only seven instances in the eighty-four in which the evidence seemed fairly to establish connection between cholera and the clothes. At the same time they say the women who washed the clothing for the Tooting children escaped entirely; and of the thirty women in the laundry of the Milbank prison, not one was affected; while of one hundred women employed in other capacities through the prison, eight took the disease. The liability, then, even for the washerwomen, is not very great; it is perhaps a little greater than for nurses, as it is a little more for nurses than for physicians. But even if it were established that this occupation is especially dangerous, further inquiry would be necessary to determine whether the danger arises from a personal poison or a miasm imported with the clothes."

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Prophylactic Arrest of Asiatic Cholera.—Dr. Henry MacCormac states (*Medical Press and Circular*, June 6, 1866) that "if there be a therapeutic fact more certain than another, it is that our success in the treatment of Asiatic cholera will, *cæteris paribus*, be in the exact ratio of the recency of the treatment.

"The truth of this statement was abundantly exemplified in the results of house-to-house visitations. In Glasgow, for example, after a system of house-to-house visitation, during cholera periods, had been once fairly organized, the mortality was surprisingly small. Cases of premonitory diarrhœa, for example, that, if neglected, would have run on to intractable and perhaps fatal cholera, were arrested by means of an opium pill and an opiate draught, with a mortality actually not exceeding one in 1,400. Nothing could be more astonishing or more entirely satisfactory. Nevertheless, numbers perished owing to neglect. The preliminary purging was either not checked at all, or having been partially checked recurred again, and not being again checked, eventuated in the fully-formed and fatal disease. I proved the fact myself in very, very many instances. Going among the dying and the dead, I have asked those about—Do you purge?—Yes. Very well, open your mouth; whereupon I could throw into the mouth and command them then and there to swallow a good grain or so of opium twitched from a lump of soft opium, which I always carried in my pocket for the express purpose. At the same time, and from the same source, I would produce a bottle of laudanum or Battley, and give 20 or 30 drops of the solution in a little water, taking care to leave a like dose to be repeated at bedtime or sooner upon an emergency. I remember once being in a house where four poor women, pitiful to relate, were lying dead at one and the same time. The mortality, in many instances, was greatly enhanced, too, by the homicidal practice, which I am sorry to say was too much encouraged, of giving and even repeating draughts of castor oil. It was too bad.

"During 1854, it was, that some alterations in the building took place, and a communication subsisting with the infected town, the Belfast District Asylum for the Insane, to which I was and am visiting physician, was visited with cholera. It broke out with startling suddenness, and forty of the inmates very rapidly perished. Many of the inmates were very unfavourable subjects for the disease, and I began to fear for the whole establishment. Intimately convinced, however, of the infinite value of prevention, it occurred to me that if I could not only arrest, but anticipate the premonitory diarrhœa, I might also arrest the disease. I immediately had prepared some dilute sulphuric acid, of whose general

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efficacy in the treatment of choleraic diarrhœa, I had had ample experience; without waiting for the preliminary diarrhœa, I say, I gave to every inmate in the establishment a daily dose of about a drachm of the dilute acid in peppermint water The existing cases of the disease having run their course to death or recovery, *no other instance of the malady occurred;* and I had the unspeakable satisfaction, owing, as I am intimately convinced, to the prophylactic efficacy of the dilute acid, of witnessing the utter disappearance of the disease.

"I would strongly recommend, and as strongly urge upon the attention of the profession, and indeed the general public, the advisability, coupled, however, in every case with every proper general sanitary precaution, of having recourse, with respect to the entire community, of the prophylactic efficacy of dilute sulphuric acid, and in the very manner in which I myself tested it. I firmly believe, ever and always neglecting no effective sanitary precaution, that it would make us virtually masters of the situation, and render the ravages of cholera, really and truly, a thing of the past."

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Treatment of Premonitory Diarrhœa.—Dr. BOWERBANK says: "As regards the attacks of diarrhœa so prevalent during the visitations of cholera, I have seen all sorts of treatment employed—as mercurials, opiates, ipecacuanha, the mineral acids, laxatives, antacids, and astringents; and I have seen each and all succeed and fail in checking the disease; in cases in which the looseness was troublesome and continuous, tending to dysentery not infrequent after an attack of cholera, I have found strychnia of much service, either alone or in combination with iron. In prescribing strychnia in such cases, I generally gave it according to Marshall Hall's formula. In the majority of cases of diarrhœa I think a little ginger tea with a few grains of carbonate of soda, with attention to diet, proved sufficient. If there was pain, a few drops of some preparation of opium were added. In such cases, too, chloroform and chlorodyne prove of service; but in all cases, even of diarrhœa, the treatment should be suited to the particular case."—*Med. Times & Gaz.*, April 14, 1866.

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Treatment of Cholera.—"As to the treatment of Cholera," Dr. BOWERBANK says, "My experience is, that at the commencement of an epidemic the majority of cases die, and appear to be unamenable to any curative treatment. I have seen drugs without number tried, and have heard each and every one cried up for a time as a specific and certain cure, but have seen them again fail and put aside. I have seen and tried small and repeated doses of calomel; also large doses of the same; also small and monstrous doses of acetate of lead, the mineral acids, the alkalies, opiates, quinia, ipecacuanha, belladonna, mineral and vegetable astringents, cajuput oil, croton oil, castor oil, turpentine, creasote, nitrate of silver, sulphite of magnesia, tartar emetic, mustard, table salt in large doses, 'Stevens' saline powders,' charcoal, chlorate of potash, eupatoria or bitter bush, the fresh juice of the aloe, and many others; spirituous stimulants to intoxication, carbonic acid gas, the so-called 'Liverpool mixture,' and other boasted formulæ, warm baths, hot-air baths, external frictions, enemata of all kinds, saline injections into the veins;—but, nevertheless, I fear the results have been very unsatisfactory on the whole. Few of the first cases got well, and if they did I could not satisfy myself that their doing so was the result of what they had taken. I am quite certain that in the epidemic of 1850 I saw much mischief done by the use of spirituous stimulants and of opiates; so that in the epidemic of 1854 I almost *entirely* banished these remedies from my practice. Calomel and other mercurial preparations are, in certain cases and at certain stages of the disease, useful; but they have no specific effect, and in the hands of the unprofessional are calculated to do more harm than good.

"I think I have seen more good to arise from the use of Stevens' powder than from any other mode of treatment—in fact, in 1854 I confined myself chiefly to this. Having read of the use of sea-water in the treatment of cholera, and from the difficulty of getting the saline powders prepared in sufficient quantity, Dr. Campbell and myself were inclined to give sea-water a trial among the prisoners of the General Penitentiary in Kingston. We had buckets of sea-water brought from a distance from the shore, and this, well-iced by pieces of ice thrown into it, was doled out in small quantities to the sufferers; they drank it greedily, and strange to say, of the seventeen

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cases who took it all recovered. Unfortunately it was not tried till towards the decline of the epidemic. In almost every case after the fourth or sixth dose the alvine dejections became tinged with bile, as also the contents of the stomach vomited."—*Med. Times & Gaz.*, April 14, 1866.

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Quarantine and Cholera.—Dr. BOWERBANK, in an article entitled "Lessons from the Cholera at Jamaica," says: "I have had no proof that any of the visitations I have seen were traceable to importation by a particular vessel; but I have known cholera introduced into a district and an island, and the disease not extend itself; thus, at any rate, proving that something more than mere introduction of the disease was necessary to its extension, and over which quarantine restrictions could exercise no influence. That cholera attacks certain districts or places, certain towns and streets, certain houses and rooms, and during the prevalence of an epidemic nestles there, I am confident, and I believe that in every such instance a bad sanitary status will be found to exist.

"The great preventives of cholera and all other epidemic diseases are pure air, pure water, plenty of daylight, and cleanliness in its widest acceptation. Where these essentials to health exist, cholera may come, and may proclaim its presence by the occurrence of diarrhœa, borborygmi, cramps, and other well-known symptoms, and it may seize as a victim a person predisposed to disease by intemperance or depression of body or mind, but here it will not nestle.

"During the epidemic of 1850, I have known towns and villages nearly depopulated; whole yards and houses, ships in port, swept clean, and not an inmate left to tell the tale. But in all such cases neglect of sanitary measures and the open violation of Nature's laws explained the cause. It will thus be seen I am of the opinion that we have no power to exclude epidemic cholera. This mysterious visitor will come to our shores in spite of us; but we have the power to lessen its ravages and to deprive it of its sting, and in effecting this we at the same time adopt the best means to rid us of those less dreaded (because more familiar and slower in their course) but more fatal scourges of our population, typhus and typhoid fever, and the entire class of tuberculous disease.

"'Prevention is better than cure.' In no instance is the truth of this adage more obvious than as regards a visitation of epidemic cholera. Experience in all parts of the known world has taught us that its ravages may be lessened or prevented by judicious sanitary measures; but that where these have been neglected, for a time at least, after its advent, this disease resists or is but little amenable to curative treatment. In case of the outbreak of cholera in a notoriously unhealthy district, I believe, as regards the mass of the people, instead of, as hitherto, adopting the house-to-house visitation system and the unprofessional and wholesale administration of medicines, it would be far better that arrangements should be made to transfer the inhabitants, or as many as possible of them, to another place, even though it should be requisite to provide tents or to allow them to remain uncovered."—*Med. Times and Gaz.*, April 14, 1866.

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The Albumen of the Blood in Cholera.—The researches of M. FERNAUD PAPILLON on the chemical and physical constitution of the blood in cholera have been published in the *Journal de l'Anatomie* (No. 2). and deserve the notice of the profession. His observations on the nature of the albumen removed from the blood of cholera patients during the algide period show that that fluid differs materially from the normal albumen. The albumen was separated from the corpuscles by repeated filtrations. The following are the results of M. Papillon's experiments: (1) This albumen, placed for four days in water, became neither hydrated nor swollen; it remained just as it was when first added, although ordinary albumen is either dissolved or swells up under the same circumstances. (2) It does not dissolve in potash or soda, even at an elevated temperature, although ordinary albumen is soluble in these reagents, even at ordinary temperatures. (3) When treated with hydrochloric acid, it slowly dissolves, and the solution, instead of having the usual deep-violet colour, is only faintly tinted. (4) At the ordinary temperatures, common albumen decomposes rapidly a mixture of nitric and sulphuric acids, nitrous vapours being disengaged. Choleraic albumen does not do so at the ordinary temperatures. Ordinary albumen is very rapidly dehydrated by sulphuric acid;

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the choleraic albumen is affected only after a long exposure.—*Lancet*, June 9, 1866.

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Cholera at Liverpool.—It appears from the *Med. Times and Gaz.*, June 2, 1866, that no new cases of cholera had occurred among the emigrants landed in Liverpool since 14th of May, and that there was no suspicion of the disease having been localized in any part of the borough. This is coupled with the following significant statement:—

"In 1854 the cholera, as now, reached Liverpool through the transit of emigrants, but did not immediately spread among the other inhabitants. Thus, though in the week ending April 8 of that year there had occurred numerous deaths among the passengers and crew of the American vessel *Winchester*, the disease did not fix itself in the town with anything like epidemic virulence until the third week of July, when a fresh importation of sick emigrants was attacked by cholera on board the ship *Derigo*. *Then, unfortunately, there were co-existent all the climaterial causes and exciters of the disease*, and from that time until the latter end of October it raged with fatal intensity."

The hope is expressed in a recent No. of the *Lancet* (June 16), "that note will be taken of the remarkable phenomena which have lately been presented in connection with the cholera in Liverpool. Its clear importation from an infected place; its frightful development under the insanitary conditions of a crowded emigrant ship; its quick and rapid disappearance under a better sanitary condition of the affected; its limitation by isolation, the only parties attacked beyond the original group, who came from an infected place, being those waiting upon the sick in various ways. These phenomena require no comment now. They involve no particular theory of contagion; but they involve the portability by persons or personal luggage of the cause of cholera, and are full of interest and importance. They go to show that cholera may be carried into a country, and may be 'stamped out' of it."

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Progress of Cholera.—Cholera has broken out among the returning pilgrims from Mecca, and on the 26th and 27th of May last more than 100 deaths occurred from this disease at Djeddah.

The disease is still raging in *Holland*, and during the first week in June 85 cases, of which 55 were fatal, occurred in Rotterdam.

In the *city of New York*, according to Dr. Harris's mortuary report, six deaths from cholera occurred during the week ending June 16. Other cases have been reported, but it does not prevail as an epidemic. In other respects the health of that city, according to the *Medical Reord* (July 1), is unusually good. The number of cases at the Quarantine station, near New York, is decreasing.

At *Elizabeth*, N. Jersey, or rather in a filthy suburb of that city, it is stated in a New York paper of June 28th, that 21 cases have occurred, of which 9 proved fatal.

In *Jersey City* two well marked cases are reported.

One case is reported in *Baltimore*. The subject of it was a man who was attacked immediately after his return from New York, where he is supposed to have contracted the disease, which proved fatal.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Library of the College of Physicians of Philadelphia.—We are happy to announce that through the liberality of their President, Dr. Geo. B. Wood, this college has been enabled to make arrangements by which their valuable and rapidly increasing library —already amounting to about thirteen thousand volumes—is *daily* open for the use of the Fellows of the College from 11 A. M. to 3 P. M., during which hours a member of the library committee is in attendance to lend out and receive books returned, and to aid the Fellows in consulting the works in the library.

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Health of Philadelphia.—The following table, compiled from official sources, exhibiting the mortality from bowel complaints and also that from all diseases for each week in June during the years 1866 and 1865, shows that the general mortality is unusually small, and that from bowel affections, though slightly on the increase, as is always the case at this season, is far below that of last year. The total number of deaths for the

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first six months of the present year, the Register of Deaths informs us, is about *two thousand less* than for the same period last year. While this state of things continues no fears need be entertained of an outbreak of cholera in our city.

	Mortality from					
	Cholera Infantum.	Diarrhœa.	Dysentery.	Cholera Morbus.	Total from Bowel Affections.	Total Mortality from all Diseases.
Year 1866						
Week ending June 2,	2	2	3	0	7	242
" " " 9,	5	3	2	2	12	247
" " " 16,	9	3	1	1	14	284
" " " 23,	7	5	0	0	12	266
" " " 30,	47	8	2	4	61	335
Year 1865.						
Week ending June 3,	4	5	2	0	11	298
" " " 10,	8	7	2	2	19	278
" " " 17,	30	9	4	0	43	293
" " " 24,	53	12	9	2	76	369
" " July 1,	89	15	5	2	111	351

Trichiniasis in Marion, Linn County, Iowa.—In April last nine persons of one family in Marion, Iowa, who had eaten raw ham, were attacked with trichiniasis. The family consisted of ten, one of whom not having partaken of the food, escaped.

Dr. H. Ristine, who attended the cases in consultation, writes us under date of June 18th, that of the nine attacked five had died, the remaining four he thought would recover. Dr. Ristine has very politely sent us a portion of the psoas magnus muscle of one of the victims to the disease, which we find on microscopic examination to be full of free trichinæ.

It is said that six cases have also occurred in a family residing twelve miles north of Marion, in the same county.

It might seem surprising, were not the recklessness of persons so common, that any one should indulge in such a dangerous gratification of their appetite as to eat raw pork.

—

Poisoning by Cyanide of Potassium through Carelessness.—Two cases of this are recorded in a recent number (June 21, 1866) of the *Boston Med. and Surg. Journal*, which deserve public attention.

In the first, a porter in a machine-shop, feeling thirsty dipped a tin cup into a jar of liquid, which he supposed to be water, and swallowed about three drachms before he discovered his mistake. In two minutes he became senseless, and was taken to the hospital, and strange to say, after an emetic, the use of the stomach-pump and of ammonia, he recovered, for the amount of the poison swallowed was estimated at twenty-three grains, and thirty-five minutes elapsed before any of the remedies took effect.

The other case occurred a few days ago under similar circumstances. A thirsty man, a stranger amongst us, went into a jeweller's shop, and asked for a drink of water. He was directed to the rear where the sink was situated. Seeing a large covered stone jar standing near it, such as is often used for holding ice-water, he lifted the cover and drank, without stopping to look at it, about half an ounce of the liquid. He became insensible in five minutes. It was found impossible to administer an emetic of sulphate of zinc in the apothecary's shop, whither he was at once taken, or later to use the stomach-pump at the hospital. He died in thirty minutes after drinking what he supposed to be a harmless draught of water. The liquid was a solution of cyanide of potassium in water, of the same strength as that swallowed in the first case, a pound to the gallon. The quantity taken was therefore about half a drachm of one of the most deadly poisons known, of which two or three grains are sufficient to kill a large animal, and five grains have destroyed human life in several instances. The prolongation of life in this, and the wonderful escape from death in the former case, were undoubtedly in great part owing to the fact that the stomach was filled with food, and that on this account the poison was not so rapidly converted into hydrocyanic acid and absorbed.

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The editor justly remarks:—

"We are far too lax in our police regulations respecting the use and sale of poisons, and if the same energy which is exercised in the enforcement of the liquor and Sunday laws were turned in this direction, much good would result."

—

Wholesale Poisoning by Lead.—During the past spring a large number of persons residing in the Walkill Valley, Orange County, New York, were attacked with symptoms of lead poisoning.

A correspondent of the *Public Ledger* (Philadelphia) states that:—

"After considerable research it was found that the lead was taken by the sufferers in bread and meal, and as a greater part of those staples were manufactured at a mill in Phillipsburg, an investigation was at once made in that direction, and the following facts were elicited:—

"It appears that the proprietor of the mills had gained a reputation for the superior quality of his flour, and that the farmers, for many miles around, were in the habit of bringing their wheat and corn to his mill to be made into flour and meal. Aside from this, he exported largely, so that his mill was kept constantly going, by night as well as by day. One set of stones was set apart for his "custom" work. This was an old set, constantly needing repairs, and large cavities frequently manifested themselves, which, instead of being filled up with the cement generally used for that purpose, were filled with common lead. Some of these holes were as large as a hen's egg: one, we are informed, being as large on the surface as the palm of a man's hand.

"If when filled the lead projected above the surface of the stone, it was hammered down level. Of course the attrition of the grinding detached minute particles of lead from the stone, and mingled them with the flour. The lead thus communicated, when fermented and subjected to baking with the flour, was immediately transformed into carbonate of lead, one of the deadliest of poisons.

"As soon as it was ascertained that the disease originated from the bread eaten by the sufferers, samples of the flour were analyzed by Dr. Dorrance and Mr. King, a chemist, of Middleton. These gentlemen found, to their astonishment, that the lead could be discerned with the naked eye. It was, however, subjected to the usual standard tests, all of which revealed the presence of lead in considerable quantities. Of course, these revelations caused a panic throughout the surrounding country.

"A statement of the leading physicians of this vicinity shows two hundred and thirteen cases of lead poisoning. I am informed that over one hundred cases have occurred in the vicinity of Goshen. Many of the victims are prominent citizens.

"I am informed that a quantity of the flour has been shipped to New York, and that seven cases of poisoning from it have occurred in that city."

—

Stevens Triennial Prize.—A Prize Fund of one thousand dollars has been established by ALEXANDER H. STEVENS, M. D., Ex-President of the College of Physicians and Surgeons, New York, for the improvement of Medical Literature, on the following plan.

Each Prize to be awarded triennially is to consist of the interest yielded by the principal fund during the previous three years, and will amount to about two hundred dollars.

The administration of the Prize is intrusted to a commission, consisting of the President of the College of Physicians and Surgeons (*ex-officio*), the President of the Alumni Association (*ex officio*), and the Professor of Physiology (*ex-officio*), in the same institution.

The following subjects have been selected, at the request of Dr. Stevens, for the first triennial Prize under this fund

1st. The best means of preventing death after surgical accidents.

2d. The history of improvements in the medical art, and the means by which they are attained.

The competing essays on either of the above subjects must be sent in to the President of the College of Physicians and Surgeons, New York, on or before the first day of January, 1869. Each essay must be designated by a device or motto, and must be accompanied by a sealed envelope bearing the same device or motto, and containing the name of the author.

The envelope belonging to the successful essay will be opened and the name of the author announced at the annual commencement of the College in March, 1869.

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This Prize is open for universal competition.

EDWARD DELAFIELD, M. D., *President of the College of Phys. and Surg.*

ALFRED C. POST, M. D., *President of the Alumni Association of the College of Phys. and Surg.*

J. C. DALTON, M. D., *Professor of Physiology in the College of Phys. and Surg.*

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College of Physicians and Surgeons, New York.—Dr. FREEMAN J. BUMSTEAD has been appointed Professor of Materia Medica and Clinical Medicine in place of the late Prof. Jos. M. Smith; and Dr. H. B. Sands adjunct Professor of Anatomy.

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Destruction of the Building of the University Medical College and its valuable Contents.—We regret to make the announcement that the building of the University Medical College of this city was completely destroyed by fire on the night of the 21st of May. The valuable museums of Professors Mott and Post have been entirely lost, together with the immense and costly laboratory of Professor Draper, and the rare collection of shells and minerals belonging to the Lyceum of Natural History. Notwithstanding, however, this appalling catastrophe, we are happy to be able to state that the Faculty have not allowed a single day's intermission in the spring course of lectures. The upper portion of the Demilt Dispensary is now being temporarily used for a lecture room. The friends of the College will be glad to learn that the institution is to be at once rebuilt, with many additions, and that the work will be carried on as rapidly as possible.—*Medical Record*, June 1, 1866.

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Atlanta (Geo) Medical College.—This institution commenced its eighth regular summer course of Medical Lectures on the 7th of May last. The faculty consist of: John W. Jones, M. D., Emeritus Professor of Practice of Medicine; J. P. Logan, M. D., Professor of Theory and Practice of Medicine; A. Means, M. D., Professor of Chemistry and Pharmacy; D. C. O'Keefe, M. D., Professor of Anatomy; T. S. Powell, M. D., Professor of Obstetrics and Diseases of Women and Children; Eben Hillyer, M. D., Professor of Physiology; W. F. Westmoreland, M. D., Professor of Surgery; S. H. Stout, M. D., Professor of Surgical and Pathological Anatomy; J. G. Westmoreland, M. D., Professor of Materia Medica and Therapeutics.

The faculty have made arrangements for using the Freeman's Hospital for Clinical instruction.

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Economical Sieves.—Dr JOHN PARSONS, of Mount Pleasant, Kan., writes to us:—

"For sifting dry powders sieves may be of stiff paper punched with needle holes the size of the needle making the sieve fine or coarse. The sieve may be made of any size required and secured in a drum as is the ordinary wire sieve, they are easily cleaned, cheap, and may be found useful by some practitioners."

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The New Sydenham Society.—This very useful society announce the following works to be published for the current year's subscription:—

I. Bernutz and Goupil: Clinical Memoirs on Diseases of Women. Vol. I. Edited and translated by Dr. Meadows.

II. Hebra on Diseases of the Skin. Vol. I. Translated by Dr. Hilton Fagge.

III. Griesinger's Manual of Mental Diseases. Translated by Dr. Lockhart Robertson, and Dr. Rutherford.

IV. The Society's Atlas of Skin Diseases. A Sixth Fasciculus, to comprise (in three beautifully coloured plates 18×24 inches) Illustrations of—Eczema Impetiginoides on Face of Adult; Eczema on the Face, &c. of Infant; Eczema Rubrum on Leg of Adult; Psoriasis of hands and Finger Nails; Syphilitic Psoriasis of Finger Nails; Congenito-Syphilitic Psoriasis of Finger and Toe Nails; Onychia Maligna; Chronic General Onychitis.

We invite the attention of our readers to the advantages offered to subscribers for obtaining at a comparatively small price the valuable publications issued by this society.

For terms of annual subscription, or for list of works published, application may be made to RICHARD J. DUNGLISON, M. D., *Honorary Local Secretary*, 39 S. 11th St., Philadelphia.

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American Medical Association—The Committee of Publication have issued the following circular:—

"The Committee of Publication are obliged to appeal to the members of the American Medical Association for contribu-

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tions of money to defray the expenses of printing and illustrating the transactions of the last meeting.

"The amount of assessments at the meeting in Baltimore falls short of that required by more than one thousand dollars, and unless this deficiency is supplied the volume cannot be published.

"Many members have expressed their willingness to contribute, and one has agreed to give a hundred dollars if there is any prospect of aid from others. You are earnestly requested to contribute and to forward whatever amount you may be disposed to give, to Dr. C. Wister, 1303 Arch street, Philadelphia."

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Physicians' Advertisements.—We commend to the attention of the profession the following just remarks extracted from an editorial in our contemporary, the *Boston Med. and Surg. Journ.*, May 10th, 1866.

"The frequent abuse of the mistaken leniency which allows a physician publicly to announce or recommend himself, has become so frequent among us of late, as to call for some notice from us and for stringent action on the part of our State Medical Society. Until recently the announcement of a change of residence, or of a resumption of practice, was the extent of what was considered justifiable by the laws of professional decorum, although even these exceptions have sometimes overstepped the limits of propriety by being kept too long before the public eye, but now we find the newspapers of this city every day containing the advertisements of members of our body which can in no way be distinguished from those of some professional quacks. Not satisfied, moreover, with seeking notoriety by special and extra puffs in the columns of the daily journals, disgraceful exhibitions of machinery and written promises to cure are conspicuously presented to the gaze of the passer-by in office windows, pamphlets containing accounts of wonderfully successful cases are published for public distribution, and self-laudatory circulars are issued for the medical reader.

"There is another class of advertisements which is also becoming more frequent, and which, although hitherto considered at least not improper by some of the profession, is so liable to abuse in its present undefined condition, that it has become a matter worthy of grave consideration. We mean the cards of so-called specialists published in a medical journal. It is a custom which has so gradually sprung up in this city as to have become an almost recognized law amongst us, and we do not in the least intend to reflect upon the gentleman who have availed themselves of its privileges. It is a custom, however, which is confined to ourselves, and which would be considered entirely unprofessional in any other part of the country."

The editor of the *Medical Times and Gazette* (London), in a recent number, republishes several advertisements taken from our Boston contemporary, to show that professional advertising in American journals differs from what is allowable in England. The dignity and respectability of the profession in Boston has gained nothing by the method of advertising practised by certain specialists there.

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Obituary Record.—Died, in Boston, June 21, 1866, Reuben D. Mussey, aged eighty-six. Dr. Mussey was one of the most eminent Surgeons of New England, and was for many years Professor of Surgery in Dartmouth Medical College, in his native State. About the year 1838 he removed to Cincinnati, Ohio, and was appointed Professor in the Miami Medical College, which he held until some ten years ago. He communicated a number of very valuable papers to the *American Journal of the Medical Sciences*, among others one on fractures of the neck of the thigh-bone within the capsular ligament.

FOREIGN INTELLIGENCE.

Liquor of Villate.—M. Houel presented to the Imperial Academy of Medicine (May 2, 1866) a pamphlet on this preparation by Dr. Notta, of Lisieux, which drew from the members some interesting remarks, a summary of which may interest our readers.

The liquor of Villate is an astringent and escharotic preparation which according to the Veterinary Pharmacopœia is composed as follows—

Liquid Subacetate of Lead	30 parts
Crystallized Sulphate of Copper,	
Crystallized Sulphate of Zinc, āā	15 "
White Vinegar . . .	200 "

Mr. N. has employed this preparation

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with success for many years in the treatment of caries, and of fistulæ following cold abscesses. The memoir of Dr. Notta contains numerous striking cases drawn from his own practice and that of M. Nelaton showing the efficacy of this preparation. There is much difference of opinion, however, among the members of the Society of Surgery of Paris in regard to this article. MM. Houel, Léon, Labbé, and Desormeaux assert that they have obtained the best results from its use, and have never seen any injury or even serious inconvenience result from it.

On the contrary MM. Legouest, Chassaignac, Boinet, Le Fort, and Laborie, state that it occasions excessive, insupportable pain, irritation and very serious inflammation. Finally MM. Follin and Verneuil have used it sometimes with good, sometimes bad effects; both have found injections of the fluid induce acute pain, the first has never seen any injury result, the second has witnessed severe inflammation which, however, resulted in a cure.—*Revue de Thérapeutique Méd.-Chirurg.*, June 1, 1866.

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The Baneful Effects of Nicotine prevented.—M. Melsens has found that tobaccos, from various countries, contain nicotine in very different proportion. In tobacco from some parts of France (*e. g.*, the department of the Lot) there is 7.96 per cent. of nicotine; whilst Havana tobacco contains only two per cent. He proposes to smokers a way of preserving them from the effects of the alkaloid, and advises them to put into the tube of the pipe or cigar-holder a little ball of cotton, impregnated with citric and tannic acids. As the smoke passes through the cotton, it will deposit the nicotine therein, in the shape of tannate and citrate. M. Melsens has made very ingenious experiments, which go a very great way to prove that he is perfectly correct.—*Lancet*, April 7, 1866.

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Extirpation of Scapula.—M. Michaux, of Louvain, has lately presented a memoir to the Academy of Medicine of Paris giving an account of the case of a boy, aged fifteen, from whom he successfully removed the right scapula, for an encephaloid tumour involving that bone and its muscles, in November, 1864. The shoulder-joint was disarticulated and the arm left, the scapula having been turned forwards from the ribs, and the disarticulation being effected with the écraseur. The boy recovered from the operation, but died in the following September of a cancerous tumour of the mediastinum.—*Gaz. Médicale.*

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Trichina in a Cancerous Tumour.—Dr. Klopsch relates in the April number of *Virchow's Archiv* the case of a lady who consulted him in 1857 concerning a tumour of the right breast, and on interrogating her concerning her previous health, he found that this had always been very good except at one period—viz., in 1842—when, while residing at Dresden, she became the subject of severe pains in the joints and limbs, followed by paralysis. After a while anasarca appeared, and continued many weeks. At the end of three months from this her health began to improve, and after four months' confinement to bed she recovered. Later, she married and bore a child, and, in fact, continued in good health, with the exception of occasional muscular pains. The tumour in her breast had appeared since early in 1857, and exhibited the signs of carcinoma, and the glands of the axilla having become slowly affected, while the cancer cachexia was not developed, Professor Middledorpf amputated her breast in May, 1863. Two years later, cancerous infiltration of the axilla having appeared, and the patient's general health being good, it was resolved to excise such parts. While separating these from the subjacent intercostals, Professor Middeldorpf observed that they were beset with white granules, which he suspected to be trichina capsules. Examined microscopically, every portion of the muscle the size of a pin's head was found to contain four or five completely calcified trichina-capsules, trichinæ, on a section being made, being found free and living. This is the first instance on record in which twenty four years after an invasion of trichiniasis, living trichinæ have been still discoverable. That they really were deposited in 1842 is shown, not only by the symptoms then present and the subsequent good health of the subject, but also by the fact of two of her servants having then died suffering from similar symptoms. It is an interesting speculation how far there is any etiological connection between the trichiniasis and the cancerous degeneration.—*Med. Times and Gaz.*, June 9, 1866.

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Treating Wounds by Pneumatic Occlusion.—M. JULES GUÉRIN, who during the last thirty years has been developing the principles and practice of subcutaneous Surgery, read at the last meeting of the Academy of Medicine a memoir on the "Treatment of Exposed Wounds by Pneumatic Occlusion," intending by this not very well expressed title to indicate the action of an apparatus which he has contrived, by the aid of which open wounds involving the skin and subjacent parts may be assured of a protection from the action of the air analogous to that afforded by the skin in the case of subcutaneous wounds, and therefore, freed from suppurative inflammation, enabled to heal by immediate union After trying a long series of experiments by covering the wounded surfaces with various substances capable of isolating them from the atmospheric air, and finding these one after another fail, either by reason of the penetration of the air or the accumulation and putrefaction of the products of secretion and exhalation—he believes that he has now devised an apparatus capable of successful application. Envelopes of various forms and dimensions formed of vulcanized caoutchouc are adapted to any part of the body, and when applied to the injured part they are introduced into a metallic receiver, which is kept constantly exhausted. Between the wounded surface and the caoutchouc envelope is placed a very thin, permeable tissue, in order to facilitate exhalation from the surface. Capable, as M. Guérin believes, of a very wide application, this apparatus has at present been tried in the following cases—viz., (1) An excoriated wound left after the removal of a fibrous tumour from behind the malleolus, was covered with some waxed silk and placed in the air-tight apparatus, rapid cicatrization without suppurative inflammation following. (2) In a fracture of the forearm, with a fragment of the radius penetrating the skin, the same mode of dressing was applied, and at the end of the fourth day, the wound of the skin having become closed, the case was treated as a simple fracture. (3) After an amputation of the thigh the flaps were brought together by seven points of suture, and the stump having been placed in the apparatus, cicatrization was found to have become completed by the seventh day. As it was not sufficiently solid, however, the apparatus was re-applied until the eighteenth day: neither fever, suppurative inflammation, nor notable pain occurring during the treatment. (4) The palm of the hand having been much shattered by the explosion of a cartouche exposing the metacarpo-pharyngeal articulations, fifteen sutures had to be applied to bring the fragments of skin together before the part could be placed in the apparatus. Once there, however, all suffering ceased, elimination of mortified parts taking place with ease, and excellent cicatrization following.—*Med. Times and Gaz.*, Feb. 17, 1866.

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New Galvano-Caustic Knife.—At the *Société de Chirurgie*, M. BROCA exhibited a new galvano-caustic knife, invented by M. Séré, of the Military Hospital at Vincennes. The blade of this knife, formed of platinum, can be heated as high as 1500° C. by the passage of a galvanic current from a Grenet pile. Platinum being a soft metal, this blade has no cutting edge, but it requires an excellent one under the influence of the electrical heat, which instantly communicates to it a special temper, the blade again becoming blunt upon the abatement of the heat. At 1500°, a white-red heat, the vessels cleanly divided remain open, and the blood issues freely out. The instrument is, in fact, graduated from 1500° to 600°, the heat being increased or diminished by a very simple procedure, which consists in elongating or shortening the portion of platinum comprised in the circuit. The blade can thus be made to pass through all the intermediate degrees from a white-heat at 1500° to a dull red at 600°; and by means of these graduations the instrument can be made to fulfil three different surgical indications—(1) at 1500° it divides the tissues, producing hemorrhage; (2) at 600° hæmostasis is produced at the same time as the incision; (3) and between these two limits it divides and cauterizes simultaneously. It is, moreover, in its mechanism an ingenious improvement upon the galvano-caustic knife already in use. M. Demarquay observed that he has once had occasion to employ the instrument, and he became alarmed at the extreme facility with which this knife, without a cutting edge, cuts through the tissues; and if care be not taken much more of these may become divided than is intended. He thinks surgeons should have their attention drawn to the excessive and truly fearful cutting powers

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of this knife. M. Broca could really see nothing alarming in the powers of the knife; but that may be from his temperament being different to that of M. Demarquay.—*Ibid.*

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Alcoholized Milk for Infants.—M. Jules Simon, in his new work *Le Travail*, states that at Jelle and Rouen there are some women so saturated with intoxicating liquor that their infants refuse the breast of a sober woman. In the mountains of the Vosges the infants drink brandy.—*Lancet*, April 7, 1866.

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Poisonous Principle of Mushrooms.—Dr. Letelleir says, that the poisonous substance in mushrooms is a fixed, non-crystallizable, narcotic principle—amanitine. It is precipitated by iodine and tannin. The treatment for poisoning thence resulting is vomiting and purging, followed by a strong aqeous solution of tannin.—*Brit. Med. Journ.*, April 7, 1866.

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Deodorizing Properties of Ground Coffee.—Dr. Barbier affirms that ground coffee posseesses some remarkable properties as a disinfectant. In several cases where he had to make post-mortem examinations of bodies under *very disagreeable* circumstances, he found that a handful of coffee strewn over the body and about the room quite overcame any bad odour.—*Lancet*, April 21, 1866.

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Ozone.—For the past few months our continental neighbours have been making known some valuable additions to the knowledge of this body, to the more interesting of which we shall call attention.

Our readers are probably all aware that the existence of a substance, called by its discoverer *ozone*, was made known to the scientific world by Schœnbein. He did not then isolate it as hydrogen, iodine, magnesium, or other substances have been isolated; nor has he or the other workers at the subject succeeded in doing so since, although more than the quarter of a century has elapsed since its nature first became matter for investigation.

To form it there must, all are agreed, be *oxygen*, but we can hardly say that all are also agreed that there must not likewise be hydrogen, or rather, perhaps, water. On the whole, however, the experiments of Andrews and Tait may be considered as setting the question at rest, at least, so far as this: From oxygen alone some of the phenomena indicating the presence of ozone can be obtained. The question is not so satisfactorily answered as to whether the substance that is formed in presence of water-vapour, and answering to the tests of ozone, is formed from oxygen only, or from a combination of oxygen and water.

But we must not say more of its nature until we have stated some of the means of obtaining it, or, more correctly speaking, obtaining indications of its existence. If perfectly dry and pure oxygen gas be electrified by passing a series of sparks through it, or, even better, according to Dr. Andrews, by silently discharging machine-electricity through it, ozone is produced. That is to say, the oxygen acquires new properties. It acquires a peculiar smell, such as is observed on standing near a large electrical machine in action, or much like that of a dense fog. It diminishes in volume. It becomes capable of *oxidizing* bodies in a way that it could not do before, so that it becomes corrosive, destroying most organic substances, such even as caoutchouc, and acting on metals, even silver, oxidizes and decomposes salts ordinarily stable, such as sulphate of magnesia and iodide of potassium, and even combines with the inactive substance nitrogen (in the presence of moisture). It is practically insoluble in water, but is absorbed by it if the water contains a material quantity of organic matter. If the oxygen which has been thus changed is treated with some of the substances affected by it, these active properties disappear, and a great part of the original oxygen employed is left unchanged. But Frémy and E. Becquerel have shown that by electrifying the oxygen in contact with moist metallic silver, or a solution of iodide of potassium, all the oxygen can be so changed as to be absorbed by these substances.

Other methods of forming ozone in the presence of water are by gently heating a mixture of air and ether vapour, or by exposing clean moist phosphorus to the air. In these cases the formation of the ozone seems to be simultaneous with the partial oxidation of the acting substance. It is also formed during the electrolysis of dilute sulphuric acid, or, as it is the fashion to say, of water acidulated with sulphuric acid. And also by the action of sulphuric acid

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on peroxide of barium, and by other laboratory methods.

It has been shown to be formed during fermentation and the growth of moulds, and it is believed to be very generally produced during oxidation at ordinary temperatures. It, however, can hardly be said for certain that oxidation is a cause of the ozonization of oxygen, as we know that all the oxidations that do take place are producible by ozone itself, so that it may be that ozone is produced by the contact of oxygen with these bodies, or in other ways, and that then these bodies begin to oxidize under the action of the ozone.

Now, with regard to the test of its presence, there are several, but there is hardly one of them which cannot be challenged as an uncertain indication of it. One of the earliest tests employed, but seldom used now, was a white paper impregnated with sulphate of manganese, an almost colourless salt. This paper is turned brown by the formation of hydrated peroxide of manganese. Another test, proposed by Schœnbein, and the one most in use at present, is white paper impregnated with starch-paste and iodide of potassium. This paper is turned blue, or a colour approaching it, by ozone, potassa being produced and iodine liberated, which then forms the blue compound of starch and iodine. M. Houzeau has introduced, and for a long time employed, strips of wine-coloured litmus-paper, half of each of which only is impregnated with iodide of potassium. This he does because there are other substances that are liable to change the iodized starch-papers by liberating iodine which will not affect these papers. For these other substances liberate the iodine by forming a neutral salt with the potassium, such as acid vapours, chlorine, etc., but ozone does so by forming potassa, which is alkaline. This alkalinity his papers indicate by the part charged with the iodine becoming, under the influence of ozone, blue from the action of the potassa on the violet litmus, and then contrasting with the unchanged colour.

We have already indicated the most striking properties of ozone, but there are still some things requiring notice. By its powerful oxidizing action on organic matter, it quickly purifies air or water charged with organic matters, removing smell and taste from them. Indeed, the most offensive masses of putrid matter lose their offensiveness to the senses by the action of this body. Its active chemical properties render it a powerful irritant to mucous surfaces. By heat ozonized oxygen loses all the properties of ozone, and regains its own; among others, its proper volume.

We have also to say a little concerning the destiny of ozone. Since oxygen converted, or partly converted, into ozone, contracts in volume, it is evident that ozonized oxygen must be denser than ordinary oxygen. Attempts have recently been made to determine its destiny, by M. Soret. We must mention that when ozonized oxygen is exposed to the action of iodide of potassium or moist silver, it loses its peculiar properties, except that it does not reassume its original volume, as it does when heated. Further, that the loss of oxygen is accounted for, and the absorption of ozone proved, by the fact that a quantity of iodine chemically equivalent to this oxygen or ozone is set free from the iodide of potassium. It is just possible, it seems to us, that ozone may be a vapour of very low tension, of a highly volatile liquid, which we have not yet been able to get in sufficient quantity in a given space to make it reach the point of maximum density, when formation of liquid would take place. For, then, the slight loss of elastic force by the absorption of it from its mixture with oxygen might well escape observation. However, chemists do not seem to hold this view. The one which has for some years been suggested is that ozone is half as dense again as oxygen. On this hypothesis, iodide of potassium is considered to absorb one-third of the matter of ozone, and to liberate the other two-thirds as ordinary oxygen. This, of course, requires the further admission that the ozone behaves as if formed of two kinds of matter, two kinds of oxygen, and that it is an oxide of oxygen having the formula O_2,O. We shall not pretend to criticize this hypothesis. We refer to it here, partly because M. Soret has attempted to determine the density of ozone, and he finds his experiments confirm the view that three volumes of oxygen are condensed to two. He has discovered that oil of turpentine so acts upon ozonized oxygen as to cause the volume of the gas to diminish, instead of this remaining unchanged, as when iodide of potassium acts upon it. He concludes from this that iodide of potassium decomposes this *compound oxygen*, or ozone, and

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absorbs part, while turpentine absorbs it wholly. Granting the truth of this conclusion, our readers will at once understand that if, as in the experiments of M. Soret, two measured quantities of the same ozonized oxygen are taken, and the one acted upon by turpentine and the other by heat, that the volume of oxygen equal to the ozonized gas will be learned from the latter action, and the quantity of unchanged oxygen in a given bulk of the gas from the former. The difference between the volume of the original oxygen and that of the unchanged oxygen will give the quantity converted into ozone; the diminution in the bulk of the ozonized gas caused by turpentine will give the volume of the ozone absorbed by it. M. Soret found in this way that the volume of the ozone absorbed by the oil of turpentine was produced from a volume almost half as great again of oxygen. Hence he concludes that the density of ozone is half as great again as that of oxygen.

We have so much more to say about ozone, more especially as regards the late controversy as to its existence or not in the atmosphere, that we must reserve this for another article.—*Med. Times and Gazette*, April 7, 1866.

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Mortality of London.—The mortality of the metropolis continues to be greatly beyond the ordinary average. In the week ended Saturday, June 9, the number of deaths was 1313, the average of the ten previous weeks being 1087. Measles, scarlatina, whooping-cough, typhus, and diarrhœa continue to be unusually fatal. Four fatal carriage accidents in the street are registered, and three deaths from cholera.—*Lancet*, June 16, 1866.

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Sickness in the Prussian and Austrian Armies.—The cholera has made its appearance at Altenburg, a town in Prussia. The right flank of the Prussian army being in cantonments near to Altenburg, the medical officers have taken all precautions should it spread to the troops. Other descriptions of sickness are very prevalent in the Prussian army. One thousand sick soldiers have already been sent back to Berlin; and it is stated that illness reduces the effective men one per cent. a day. Typhus has made its appearance in the Austrian army.—*Ibid.*

Annual Prizes of the Imperial Academy of Medicine.—These were announced on the 12th December last. The Academy prize of 1000 *francs* was adjudged to Dr. Martin, its subject being Traumatic Paralysis. Baron Portal's prize of 1000 *francs*, "On the Specific Anatomical Characters, if there be any, of Cancer," was gained by M. Cornil. There were six competitors for Madame de Civrieux's prize of 1000 *francs*; the question being, "The Relations between General Paralysis and Madness." M. Magnan took the prize. Capuron's prize of a like value, "the Pulse in the Puerperal State," was not adjudged. An encouragement, however, of 600 *francs* was given to M. Hemey, one of three competitors. Baron Barbier's impossible prize of 8000 *francs*, for a cure of incurable diseases, found seven candidates. A prize of 7000 *francs* was adjudged, as the nearest approach to the programme, to M. Chassaignac, as author of "Ecrasement Linéaire." M. Amussat's prize of 2000 *francs* found four candidates, but no takers; but recompenses were given to two of them. Eight works were sent in for Godard's prize of 1000 *francs*; but the Academy gave only two recompenses.—*Brit. Med. Journ.*, Dec. 23, 1865.

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Treatment of Acute Rheumatism with Blisters.—The *Weiner Medizin Wochenschrift* says, that the method of treating acute rheumatism with blister laid on the inflamed joints was first practised by Dr. Dechilly, of Vaucouleurs; and that in 1850 he communicated a paper on the subject to the Paris Academy of Medicine, through Martin Solon.—*Brit. Med. Journ.*, April 7, 1866.

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Obituary Record.—Died, At Tunbridge Wells, on Feb. 11, 1866, W. T. Brande, Esq., F. R. S., aged 81. Dr. B. early in life devoted himself to chemical studies, and was for some time assistant and afterwards the successor of Sir Humphry Davy as Professor of Chemistry to the Royal Institution of Great Britain. He was a voluminous writer.

—— At Jaffa, whither he had gone on one of those missions of love and mercy in which he delighted, on the 5th of April, Thomas Hodgkin, aged 68. Dr. H. was a physician of great talent, was a fine scholar, an accomplished linguist, and a warm hearted philanthropist.

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It may be added that no pains or expense have been spared to render the mechanical execution of the volume worthy in every respect of the character and value of the teachings it contains.

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The work of Dr. Hodge is in the highest degree creditable to its author, and confers no trifling honor upon the school whose chair of Obstetrics he so long and so ably filled. It cannot fail to become, at least with American practitioners, a standard authority; the author being as much distinguished for his intimate acquaintance with his subject, in all its details; his long experience and admirable skill in the practice of Obstetrics; his entire accuracy and perfect faithfulness in the report of his experience—in its bearing, especially, upon every unsettled question, whether relating to the science or the art of Midwifery. They who shall rise from a careful study of the mechanism of labor as described by Dr. Hodge in the work before us without clear and exact views in regard to it, will scarcely be able to master the subject after the most careful demonstration of it by the most accomplished teacher. It constitutes, very certainly, one of the fullest and most complete treatises on the principles and practice of Obstetrics that has yet appeared in either Europe or America; and we may safely add, the most reliable On whatever question in midwifery the practitioner may consult it, he will find always the needed information, and may repose the fullest confidence in following it that he will not be led into grievous error.—*Amer. Med. Journal*, July, 1864.

Great labor has been bestowed upon the preparation, and great expense incurred in the publication of this work. It is astonishing that such an extensive and complete treatise upon any branch of medical practice should appear at such a time, and shows that the medical profession of America are anxious to be in possession of all that is known upon the subject. We have no work in our language so extensive and complete upon the art and practice of Obstetrics; and though several works of great merit have appeared within the last few years, still, no medical library can be considered complete without this volume.

The illustrations are numerous and complete; as an illustrated work, it is superior to any which has appeared. We should be glad to give a list of the subjects represented, but suffice it to say that everything desirable has been faithfully and naturally represented by lithographic plates, prepared with great accuracy and care. On this account, as a text-book for the student and young practitioner, it is of incomparable value.—*Buffalo Med. and Surg. Journal*, July, 1864.

More time than we have had at our disposal since we received the great work of Dr. Hodge is necessary to do it justice. It is undoubtedly by far the most original, complete, and carefully composed treatise on the principles and practice of Obstetrics which has ever been issued from the American press.—*Pacific Med. and Surg. Journal*, July, 1864.

The work is published in quarto form. A leading feature will strike the reader in the lithographic figures from original photographs, which illustrate more perfectly than the ordinary wood-cuts ever did, the anatomy of the parts involved, and the mechanism of labor. The mechanical execution throughout is fully equal to the best work, for which the enterprising publishers are so justly celebrated.

We have examined Professor Hodge's work with great satisfaction; every topic is elaborated most fully. The views of the author are comprehensive, and concisely stated. The rules of practice are judicious, and will enable the practitioner to meet every emergency of obstetric complication with confidence. —*Chicago Med. Journal*, Aug. 1864.

HENRY C. LEA, Philadelphia.

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VOL. XXIV. AUGUST, 1866. No 284.

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JONES ON FUNCTIONAL NERVOUS DISORDERS, 12 PAGES.

CHOLERA.

Cholera.—In our last number we stated that it was upon the alimentary canal that the cause of cholera exerted its principal force, and we shall now adduce the evidence which has led us to this conclusion. The symptoms of the disease and post-mortem appearances both sustain this view.

Dr. Goodeve, in his recent excellent article on cholera (*A System of Medicine*, edited by Dr. Reynolds, p. 126), says: "Typical epidemic cholera is characterized, in its developed stages, by vomiting and purging of watery fluid; by rapidly causing a state of the body called collapse, in which there is extreme depression or diminution of nearly all the functions of life; by terminating in death, often within twenty-four hours from the first symptoms of the disease, or in healthy reaction, or in various dangerous sequelæ, mostly of a typhoid nature." Further he states (*op. cit.*, p. 149): "In the *beginning* of an attack the most prominent symptoms are disturbances of the stomach and bowels. Then, in swift succession, though not necessarily in that order, the circulatory, respiratory, muscular, and nervous systems suffer. Then in severe cases ensues extreme depression of all the functions of life, which often terminates in death."

Dr. John Macpherson, late Deputy-Inspector-General of Hospitals, H. M. Bengal Army, who, like Prof. Goodeve, has had large experience in the cholera in India, says ("Cholera in its Home," London, 1866): "An attack of cholera sometimes comes on suddenly, without warning. Oftener there has been more or less discomfort for a day or two, with some diarrhœa, to which, if severe, the name cholerine has been given in France; this is the *early* stage of the disease." * * * "If the premonitory stage is passed or has been wanting, the patient next evacuates the contents of his stomach by vomiting, and then goes on vomiting a watery fluid with

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white flakes in it, and rejects almost instantaneously everything he swallows. Enormous alvine evacuations take place simultaneously with, or often precede the vomiting. They empty the contents of the intestine, and are at first yellow, but soon cease to be so, and present the character known by the name of rice-water motions; they succeed each other with great rapidity, and their smell is characteristic. There is an inexpressible feeling of faintness; the pulse gets accelerated and rises to 120 beats; its strength diminishes in proportion to its rapidity; the beating of the heart becomes weaker; the respiration is anxious and accelerated; the patient complains of dyspnœa, *though examination of the chest shows only altered intensity of sounds.* The voice becomes feeble; it has a peculiar sound which once heard can never be mistaken; there may be swimming of the head or ringing in the ears, incessant restlessness and jactitation of the limbs. Syncope is not common. Painful cramps are felt in the arms, the fingers, and especially the calves of the legs. By this time the patient is so weakened that he must lie down. The face expresses the greatest suffering and anxiety, the features are pinched and shrivelled, and the eyes hollow, with black circles round them. As the disease runs on, the body gets cold, the face often becomes bluish, the fingers become of the same colour, and more especially the nails, while the skin looks as if it had been macerated in water. If you pinch the skin, it retains the impression a long time; all elasticity is gone. The whole body usually becomes thinner from the drain of fluid from the cellular tissue; cold sweats break out; the secretion of bile and of urine is suspended; the urine, from the commencement, has been scanty, and contains albumen.

"In some rare cases the patient remains twenty to thirty hours in this state, and then reaction sets in."

The *respiration* is usually much disturbed and laborious, in some instances so distressing that it could only be compared to the most violent attacks of asthma. The air expired by patients who present the external phenomena of asphyxia contains much less than the usual quantity of carbonic acid, according to Dr. Davy only one-fourth or one-third;[1] and it would appear from the experiments of Dr. Clanny,[1] MM. Guèneau de Mussey,[2] Rayer, and M. Barruel, that the amount is sometimes even less. The last-named gentleman says that he has ascertained that during complete collapse no change was effected in the chemical composition of the air respired—it contained no carbonic acid, and not an atom of oxygen had been absorbed.[3]

The *secretion of urine* is usually lessened as the disease proceeds, and ultimately, in most instances, becomes entirely suppressed.

We have met with two instances, however, in which the secretion of urine was excessive, amounting to almost complete diabetes, and Dr. O'Shaughnessy has seen similar cases. The secretion from the intestinal mucous membrane is here replaced by an increased action of the kidneys. In neither of the instances in which we have observed this form, was there complete collapse, but the debility caused by the discharge was very great—there was extreme lightness of the head, and giddiness, which was aggravated after each discharge of urine. There was also slight diarrhœa, but not the profuse serous evacuation from the bowels observed in other cases.

Purging is the most constant and among the earliest symptoms of cholera.

Dr. Lawrie in his report states, that "of all the patients admitted into the Albion Street Cholera Hospital, Glasgow, there has not been one in whom the disease did not begin in the bowels and stomach. In the vast majority, purging was either premonitory, or the first symptom. Some there were who said that nausea and vomiting first annoyed them, but all had purging early in the disease. In some there was no vomiting; in others no cramps; in a few the pulse, capillary circulation, and respiration were good; but all, to a man, had a discharge of characteristic watery fluid from the bowels. So much am I convinced of this, that I now consider watery purging essential to cholera, and have no hesitation, in my own practice, in pronouncing any disease not cholera in which this symptom is absent. The purging is usually unattended by griping pains. In every case which I have had an opportunity of watching from its commencement, the failure of

[1] Ed. Med. and Surg. Journal.

[1] Cholera of Sunderland.
[2] Gaz. Méd. de Paris, T. iii. pp. 219, 278.
[3] Archives Générales, April, 1832, p. 605.

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the pulse, capillary circulation, and other symptoms of collapse, have been in marked proportion to the amount of fluid discharged, the rapidity of its discharge, and its approach to water in colour, consistence, and smell. I know no symptom by which a common diarrhœa or disordered stomach and bowels can be distinguished from the early stage of cholera."—*Glasgow Journal.*

In a few rare cases, nevertheless, purging has been absent; but in such cases the intestines have been found on examination *filled* with the rice-water fluid. We have seen one instance of this; the disease was there complicated with strangulated hernia, and the passage completely obstructed—the bowels were prodigiously distended with the fluid alluded to.

What is termed *cholera sicca* is spoken of by many writers, but we believe such cases to be apocryphal. Dr. John Macpherson (*op. cit.*, p. 57) says: "I have often heard of them, but they have never occurred in my own tolerably extensive experience, spread over twenty-four years. I never knew a case in which there was not some vomiting or purging."

Dr. Gull, in his able report (p. 130), says: "The cholera poison is not known to produce its fatal effects without the characteristic affection of the intestines. Cholera sicca, in a strict sense, does not occur, for although the disease may be fatal without any evacuation, the intestines after death in such cases have been found to contain rice water fluid."

The symptoms of cholera have been so often and fully described that it is unnecessary to dwell further on them; enough has been related to demonstrate that the alimentary canal exhibits the *earliest* and *most serious* manifestations of disease.

Let us now inquire whether the morbid lesions found after death lead to the same conclusion.

There is a remarkable uniformity in the statements of observers in regard to the pathological appearances met with in those who have died of cholera. We have in our library over one hundred and fifty works on the disease, and an examination of them has fully satisfied us, as has also our personal observation, that the only differences noticed result either from accidental complications or from the period at which death takes place—whether it occurs early or later in the algide period, or after reaction.

No constant or marked lesions are found in the brain or nervous system, lungs, heart, liver, spleen, kidneys, or genital organs.

Brain and Nervous System.—Virchow met with no structural changes in the brain and spinal cord; Reinhardt and Leubuscher report the cerebral substance to be healthy, as do most other writers; the sinuses and veins are more or less loaded with dark blood, and the brain substance often presents on section numerous dark red points from fulness of the smaller veins.

The nerves which go off from the brain, medulla oblongata, and spinal marrow, present no alteration at their origin. M. Bouillaud says that he has recently dissected the nerves of the lower extremities, in a patient who had experienced violent cramps, and that he found them in a state of the most perfect integrity.[1]

The phenomenon of cholera appearing to indicate a suspension of function in the *ganglionary nervous system*, many careful investigations have been instituted for the purpose of determining the condition of this system after death. M. Delpech asserts that he found in his examinations evident traces in the semilunar ganglions of the physiological alterations they had experienced; that they were often enlarged, red, more or less injected, and sometimes remarkably softened, and that the blood with which they were injected was red, whilst the blood in the capillary system over all the rest of the body was black. The solar plexus, he says further, was always in a more or less abnormal condition, but always recognizable by the size of the nerves which compose them, often by the red injection of their neurilemma, and sometimes even by the softening of the nerves which form them, so that they break under the slightest effort, or even the least pressure.[2] The researches of Mr. Lizars, of Edinburgh, and M. Halma Gand, appear to sustain this statement; but the investigations of MM. Gendrin, Bouillaud, Louis, Andral, and indeed of all the Parisian pathologists, are entirely opposed to it.

M. Bouillaud says that the important part which the semilunar ganglion and the plexuses which originate from it are made to perform in cholera, induced him to atten-

[1] Traité du Cholera-Morbus de Paris, &c., p. 266.
[2] Etude du Cholera-Morbus. Par le Professor J. Delpech. Paris, 1852. Pp. 197, 198.

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tively examine these parts in almost all the choleraics who died in his hospital practice, and he declares that the ganglionic nervous system did not in a single case present any lesions of structure. In some cases, the ganglions and the plexuses had preserved their normal white or grayish-white tint. But most frequently, he observes—

"The semilunar and cervical ganglions, like many other organs, were of a rose or violet tint, with or without manifest injection; this slight lesion of colour was more evident on the exterior than in the interior of the ganglions."

M. Gendrin found the semilunar ganglions and all the ganglions and nervous plexuses perfectly healthy.

"Their tissue has," he says, "its natural colour and density, if we take care to dissect these so as to prevent the sanguineous imbibition which results from the effusion of blood from the veins which are necessarily divided in the examination. It is however observed, that the nervous ganglions in the bodies of choleraic subjects often present a reddish tint which is often found after many diseases, and constantly in asphyxia."

Lungs.—In a majority of cases fatal in the algide stage, Dr. Gull, in his admirable report (*Report on the Morbid Anotomy, Pathology, and Treatment of Epidemic Cholera*, made to the Royal College of Physicians, London, 1854), states no other morbid change existed in the lungs than engorgement of the lower and posterior parts of these organs with dark blood. In some instances this was so complete as to cause portions of the pulmonary tissue to sink in water. The anterior and superior parts were drier than natural.

Virchow, Briquet, and Mignot, and most observers, found the lungs usually collapsed to the spine and flaccid; the anterior portions free from engorgement; Leudet states "the lungs are commonly healthy;" there is "frequently hypostatic congestion."

Heart.—The *heart*, *arteries*, and *veins*, except in cases of complication, offer no notable lesion. The arteries are nearly empty; in the larger ones, and in places only, a dark, imperfectly coagulated blood, precisely similar to that found in the veins, is met with. The venous system contains a blackish, viscid, semi-coagulated blood, somewhat resembling blackberry jelly. The nearer the vessels are to the heart the greater is the quantity of this black blood which they contain; it is especially considerable in the superior vena cava, the subclavians, the internal jugular, and the vena azygos. The heart, especially its right cavities, are generally gorged with blood similar to that found in the veins. Its proper veins are exceedingly distended with the same kind of blood.

Reinhardt and Leubuscher found in those who died in the algide stage the muscular substance firm, well contracted, and of a dull red colour. The right auricle and ventricle distended with blood; the left contained in proportion but a small quantity.

Liver.—After death, in the algide stage, according to Virchow, "the liver was but little altered; it was for the most part pale and flabby, only the large vessels contained blood. Not rarely the volume of the organ appeared to be diminished. The parenchyma was deeply coloured with bile."

Gull, Briquet and Mignot, Reinhardt and Leubuscher, with most observers, state that the gall-bladder is usually distended with bile, differing little from that usually found in it, often viscid, but sometimes more watery than natural; the gall-ducts not obviously affected.

The spleen is usually small, with no obvious change in the tissue, beyond that arising from want of blood, giving its capsule a wrinkled appearance. (Gull, Niemeyer, Leudet.)

The *kidneys* are unaltered in their tissue, but exhibit on section venous hyperæmia. The secreting structure rarely presents any obvious morbid change, but the urine is sometimes albuminous before its suppression. The contents of the pelvis are mostly turbid, with exfoliated epithelium and free nuclei. (Gull, Virchow, &c.)

The *urinary bladder* is, in the algide stage, mostly contracted and empty; sometimes hyperæmic, especially about the neck, and covered with a layer of exfoliated epithelium. (Gull, Briquet, and Mignot.)

The genital organs present no constant morbid phenomena. (Virchow, Leudet, Gull.)

Alimentary Canal.—Through the *whole extent of the alimentary tube*, from the pharynx to the anus, there is *constantly* found after death, marked lesions, varying only according to the period at which the patient has succumbed. When death occurs early, either from feebleness of constitution in the

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victim, or from the violence of the attack, the mucous membrane is found in a state of hyperæmia to a greater or less extent, with punctated or arborescent redness and with enlargement of all the mucous follicles.

If death occurs later, the hyperæmia has often disappeared, the mucous membrane has become pallid, softened, and denuded to a greater or less extent of its epithelium, as first pointed out by the late Prof. Horner, of the University of Pennsylvania, and since confirmed by many other observers. It is the debris of the epithelium which constitutes the flocculi so characteristic of cholera evacuations.

Dr. Charles T. Jackson, who attended the pathological examinations of Professor Wagner at Vienna, states that "the uvula, tonsils, and pharynx were covered with granulations, as also the base of the tongue." "These granulations," he adds, "vary in size from that of a pepper-corn to that of a pea, and are probably the mucous follicles altered by inflammation." Mr. Fergus, who attended the dissection of two hundred cholera subjects by Professor Wagner, states that the mucous membrane of the pharynx was often of a deep purple from injection of its vessels. "The mucous membrane," he adds, "seemed always, in acute cases, as if swollen in its whole extent; from place to place it was a bright red from numerous vessels."—*Lancet*, June, 1832.

The mucous membrane of the stomach is covered with a tenacious mucus, largely mixed with exfoliated epithelium, and over its whole circumference it presents a multitude of small, white granulations, slightly grayish, having a very regular hemispherical projection. These granulations have no regular arrangement, and everywhere disseminated, they are still more numerous in the duodenum and jejunum than in the stomach. M. Serres says that they are so numerous and developed in the small intestines that the whole mucous membrane seems as if made up by them;[1] their number decreases towards the large intestines. On dissection these granulations are found to be the follicles of Brunner distended by a white, turbid fluid, and three times their natural size. This development of the follicles of the mucous membrane appears to be constantly met with in the early stages of the disease, even when death occurs within twenty-four hours.

"The isolated follicles, or the glands of Brunner," says M. Bouillaud, "are those particularly which we observe more or less tumefied and developed; nevertheless it is not uncommon to meet at the same time that lesion in the plates of Peyer or the clustered follicles. This hypertrophy, this species of erection of the follicles of the mucous membrane of the digestive tube, prevails sometimes through the whole extent of this immense membrane; and this gastro-intestinal eruption, sometimes distinct, at others confluent, imitates to a certain extent the variolous eruption in its first stage. The number of follicles developed, when the eruption is confluent, is truly incalculable. We will only say, that any one who has seen this kind of eruption, will not consider the calculation of M. Lélut, by which the whole number of follicles in the alimentary mucous membrane is estimated at forty-two thousand, to be exaggerated. The size of these follicles thus tumefied varies from that of a small millet-seed to that of a hemp-seed. Their form is rounded and granular. Many of them have a blackish point at their centre. There are some which do not offer this character, and MM. Serres and Nonat, who have published some researches of great interest on the subject under consideration, think, as is known, that these granulations are not follicles, but *intestinal papillæ* in a state of tumefaction. We have studied with some care this point of pathological anatomy; and we are certain that an immense majority of the granulations with which the mucous membrane is covered, are really enlarged follicles, but we will not affirm that those on the summit of which there is no perceptible black point, and which marks the opening of follicles, are actually the same. The colour of follicular granulations is commonly a grayish-white; at their basis a more or less considerable injection is frequently met with."

Mr. Fergus, to whom we have already referred, states, that in those patients who "had died after a few hours' illness, the glands of the pharynx and back of the mouth, those of the intestines, from the cardia to the anus, were much, but simply, enlarged; those of Brunner were elevated above, and stood clear out from the mucous membrane; those of Peyer were raised

[1] Gaz. Méd. de Paris, tom. iii. p. 206.

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about half a line or a line, and their surface was uneven. They were always of a pale colour, and of a uniform texture when cut into; they stood in no relation whatever to those parts of the intestine where congestion had taken place; but they seemed to have some connection with the production of the thick mucus, because the glands were most developed in those subjects and in those places where this mucus was most abundant. When the contents of the canal were more fluid, these glands were no longer so distinct."—*Lancet*, June, 1832

Incipient ulcerations are also occasionally met with in the intestinal follicles.

The whole intestinal tube is generally more or less distended with a whitish, turbid fluid similar to that discharged by vomiting and stool, and which fluid is pathognomonic of cholera. In the stomach, besides the choleraic fluid, there is found usually a very considerable quantity of glairy mucus, more or less adherent to the mucous membrane; sometimes in place of this a layer of creamy matter is found similar to that hereafter to be noticed as met with in the intestines. M. Bouillaud says that he has several times seen in the stomach a yellowish or greenish bile.

Among the pathological changes found on post-mortem examination, that in the *blood* is most striking. Its consistence is much greater than normal, and its colour very dark. Its specific gravity was found by Dr. Garrod to be from 1068 to 1081, while the maximum of healthy blood, according to Becquerel and Rodier, is 1062 (*London Jour. Med.*, vol. i. p. 409.) Reinhardt and Leubuscher observe "the blood contained in the cavities of the heart was in the majority of cases coagulated into a dark homogeneous mass, with fibrinous coagula extending into the large vessels. Virchow's statement that these coagula contained a large number of colourless corpuscles, was confirmed by our own observations. The large venous trunks, and the veins of individual organs, were full of blood, whilst the arteries and capillaries were for the most part empty. This fulness of the veins was more marked in cases where death followed quickly upon the commencement of reaction after the cold stage."

The investigations of Dr. Garrod (*op. cit.*) on the blood have led him to the following conclusions:—

"1. That in cholera the physical characters of the blood are altered, and its tendency is to become thicker, tar-like, and less coagulable.

"2. That the proportion of water is much diminished.

"3. That the specific gravity of the serum is very high, which is due to the increase of the solid portion of the serum, and especially of the albumen; and that this fluid also tends to become less alkaline in its reaction.

"4. That with regard to the salts of the serum, some doubt exists as to their excessive diminution.

"5. That urea sometimes exists in cholera blood."

The analyses of Professor Hermann, of Moscow, of MM. Rose and Wittflock, of Berlin, and of Dr. Clanny, of Sunderland, also show that there is a great deficiency of water in cholera blood.

The experiments of Dr. Rayer show that the serum of cholera blood is less alkaline than that of healthy blood;[1] and Dr. O'Shaughnessy states that it is nearly or entirely deficient in its alkaline ingredients. "Of the free alkali contained in healthy serum," he says, "not a particle is present in some cholera cases, and barely a trace in others."[2] M. Lassaigne, of Paris, in his chemical examination of choleraic blood, found it to contain only a fourteenth of the usual quantity of fibrin.[3]

This change in the condition of the blood does not occur however early in the disease. This has been most conclusively shown by Schmidt,[4] and also by Dr. O'Shaughnessy, who availed himself of the second eruption of cholera in London, to repeat his chemical inquiries relative to this disease, on a most extensive scale, and with a view, if possible, to decide the important question, whether the alteration of the blood be primary or secondary, and to ascertain what are the conditions of the blood in the several stages of the disease. His investigations show, that—

"1st, in the *premonitory* symptoms, no alteration of the blood exists; 2d, in the cases in which the evacuations are trivial, and *cramps* form the prominent symptoms, the blood is also unaltered; 3d, the altera-

[1] Gaz. Méd., iii. p. 347.
[2] Lancet, Dec. 31, 1831.
[3] Traité Pratique, &c. du Cholera-Morbus, par J. Bouilland, p. 224, note.
[4] Charakteristik der Epidemischen Cholera. Leipsic, 1850.

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tion of the blood consisting in loss of water and saline matter, only occurs in the collapse cases *preceded* by excessive rice-water evacuations; 4th, this alteration of the blood gradually disappears, or increases in the fever stage, according to the aggravation or amelioration of the symptoms."—*Lancet*, Aug. 1832

Dr. Clanny also found the quantity of water in the blood scarcely at all diminished in the *incipient* stage of cholera, and Mr. Prater says, that in four cases in which he examined the blood in this stage, that fluid seemed to redden, contract, and to contain the ordinary proportion of water. The change in the blood then *occurs late* in the order of symptoms.

The character of the *evacuations* in cholera is deserving of attention. The following are the results obtained by Dr. Clanny, from an analysis of the dejected fluid: Water, 989; fibrin, 6; carbonate of soda, 3; animal extractive, 2; total, 1,000. (*Op. cit.*, p. 112.)

According to Dr. O'Shaughnessy, "all the salts deficient in the blood are present in large quantities in the peculiar white dejected matters."[1] MM. Rose and Wittflock, of Berlin, and Dr. Kirk, of Greenoch, also state the dejections to be alkaline. The existence of fibrin in the dejections is shown also by the analyses of Dr. Christie in India,[2] and Dr. O'Shaughnessy.[3]

The greatest quantitative loss, as observed by Dr. Goodeve (*loc. cit.*, p. 160), "which the blood suffers is in its watery element. For every 100 ounces passed in the fluid evacuation stage, the loss to the blood is in water 98 to 99 ounces, and of salts nearly or about one ounce. The salts exuded are the chlorides of sodium and potassium, phosphate of soda, carbonate and sulphate of soda, bearing a proportion of seven or eight parts in 1,000, a proportion nearly resembling the quantity in the blood within the vessels. The earthy phosphates do not pass through the mucous membrane as in health."

"It will be seen," he further observes, "that the intestinal surface removes from the blood a large quantity of water, a small quantity of animal matter, and much saline matter; doubtless causing great change in the blood and in the behaviour of the different elements of the blood to each other."

[1] Lancet, Dec. 31, 1831.
[2] Observations on Cholera, p. 52.
[3] On the Chemical Pathology of Cholera.

The influence which the water in the organism exercises on physiological phenomena, and the prejudicial results which follow from its loss, is not generally fully appreciated. Robin and Verdeil have shown that water is an anatomical element of the system. Bernard asserts it to be an essential component of all living organisms—that it is the necessary vehicle for the materials which enter into the double movement of nutrition and excretion, *without which life cannot be maintained*. "Independently of their special properties," M. Bernard remarks, "the organic fluids are allied by a general character; all owe their first physiological importance to the water they contain; before being useful in consequence of the substances which they hold in solution or in suspension, they are first useful as fluids."

There is little ground for surprise, then, that the loss by the blood, in cholera, of so large a portion of its most important element should be followed by disastrous consequences—that life cannot, under these circumstances, be any longer maintained. The condition is worse than after hemorrhage, for in the latter the blood in the system, though deficient in quantity, is normal in quality, while in cholera the blood is no longer suitable for the physiological functions of maintaining life.

The chemistry of the vomited matters has been less investigated.

A question which would have been regarded as of more importance formerly than at the present time, is, whether the secretions into the intestinal canal are the result of inflammatory action, or a passive serous hemorrhage, or osmosis. Dr. Gall (*op cit.*, p. 118) seems to us to take the correct view of the subject, in stating that "an examination of the fluids effused from the mucous membrane gives no evidence of active plasmatic changes taking place in them. On the contrary, the large amount of fluid thrown out, its low specific gravity, and its other physical characters, indicate an almost passive exosmosis, as through a dead membrane."

A study of the symptoms of cholera seems to us to show that the essential phenomena of the disease, those, alone, always present, are uneasy feelings of some description in the abdomen, with the discharge by vomiting or stool of a thin fluid; and that when the disease runs a fatal

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course, the only symptoms constantly superadded are, alteration in the blood, sinking of the circulation, coldness and blueness of the surface, and lessening or suppression of most of the secretions. In its simplest form, then, cholera consists in a disorder of the digestive tube, with discharge of a thin rice-water like fluid. Let us now inquire how the phenomena we have indicated as superadded, in fatal cases, result from this primary disorder of the alimentary canal.

The thickening of the blood is at once accounted for by the profuse evacuations into the digestive canal, which chemical analysis has shown to consist principally of water, and as all the secretions are derived from the blood, this fluid, thus deprived of its water, necessarily becomes thickened.

The alteration of the colour of the blood arises to a certain extent, probably, from its imperfect circulation, since it has been shown by Professor Hassenfratz,[1] that arterial blood soon acquires the characters of venous, if it be not kept in constant contact with the air, and Mr. Prater says that he is quite satisfied from his own experiments of the correctness of this statement. The main cause of the blackness of the arterial blood would, however, appear to be an incapacity of reddening by the contact of oxygen arising from the loss of its saline matter and serum. Messrs. Stevens, Rayer, and Prater have found that it never fails to redden immediately on immersion in saline solutions.

The sinking of the circulation arises from two causes: 1st. The choleraic evacuations suddenly and largely diminishing the amount of circulatory fluid, must, like profuse hemorrhages, weaken the action of the heart; and 2d. The thickening and viscidity of the blood caused by the abstraction of its fluid portion presents a mechanical obstacle to its circulation.

[1] Annales de Chimie, tom. ix.

[2] The debility occasioned by the watery evacuations from the bowels, the thickening of the blood arising from the same cause, and the mechanical obstacle which this condition of the blood offers to its circulation, are especially noticed by Morgagni in his invaluable work on the seats and causes of diseases. His own case, which he denominates a serous diarrhœa, and others of the character to which he alludes, were essentially the disease under consideration. We recommend to the attention of the profession that portion of his thirty-first letter in Book III., which treats of "Fluxes from the belly without blood."

The coldness of the body is a necessary consequence of the suspension of the circulation, and from the same circumstances, joined to the black colour of the blood, arises the livid or dark tint of certain portions of the body.

The deficiency of water in the blood, and also the law of the animal economy that the augmentation of one secretion produces a proportional diminution in others, explains the diminution or suppression of the urine and various other secretions.

Such seem to us, as indicated by the symptoms, to be the series, relation, and physiological explanation of the essential symptoms of cholera.

The post mortem appearances concur fully with the symptoms during life in showing the essential lesion in cholera—the one never absent in the disease—to be an effusion upon the inner surface of the intestinal tube of a serous fluid, containing the debris of exfoliated epithelium, which is afterwards rejected by vomiting or purging; and that this fluid is the product of an alteration equally constant, at least in its early stage, which alteration consists in the development of the secretory follicles disseminated over the digestive tube.

The exaggerated secretion of the intestinal follicles must have been necessarily preceded by an afflux towards these follicles, and it must also be necessarily accompanied by that state of turgescence of the secretory organs accompanying all augmented secretions—an active state to which Bordeu has called the attention of physicians, and of which post-mortem examinations have always shown the traces when death has not occurred too late.

This fluxion towards the follicles of the digestive tube is among the earliest effects of the cause, whatever it may be, productive of cholera, and is manifestly the result of the well-known law, *ubi irritatio, ibi fluxus*. Starting from this orgasm of the follicles alluded to, we have little difficulty in showing how the phenomena of cholera follow as natural results.

These follicles gradually increase in size under the influence of this fluxion to them, their secretions are augmented, and thus is produced the serous diarrhœa which constitutes the initiatory stage of cholera. As soon as the secretion is increased in the whole digestive tube, to a sufficient extent to quickly substract from the blood a large

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portion of its elements, the choleraic symptoms appear. Previous to this, the loss which the blood suffers is slight, and absorption repairs it continually. Thus, the intensity of the general symptoms is, *cæteris paribus*, in proportion to the *suddenness* of the serous secretions. A person in whom these secretions occur slowly, suffers less at the end of three or four days, although he may have lost a large quantity of serum, than another would at the termination of an hour, in whom the deperdition has taken place suddenly, even though he had lost less serum. For the same reason the disease becomes very speedily fatal in those who have scarcely any discharge by vomiting or stool, but whose alimentary tube is suddenly filled by the product of the secretion, and this especially in persons whose vital powers are enfeebled by previous disease, irregular habits, &c.

Debility, coldness of the extremities, feebleness of the pulse, oppressed respiration, and syncope, are the immediate results of all sudden losses of blood; it is quite intelligible, then, how they occur in a disease in which the blood is suddenly deprived of its most essential elements;[1] they also occur in excessive serous diarrhœas, and in ordinary cholera.

The blood deprived of its water by the profuse secretions into the bowels, becomes thickened; and in proportion as it is rendered thick and viscid, and the propulsive power of the heart is enfeebled by the excessive choleraic secretion, will the circulation be diminished. The diminution of the circulation through the lungs causes derangement of respiration—the blood deprived of its saline matter by the secretions in the bowels, the oxygen of the air cannot effect in it those changes which this agent ordinarily produces upon it in the lungs;[2] the proper changes of the blood in the lungs being thus imperfectly and ultimately not at all effected, the portion of this fluid which reaches the left side of the heart is similar to that sent to the lungs by the right side of that organ. The suspension of the general circulation and the dark colour of the blood produce a blueness or bronze colour in those parts in which the thinness of the skin permits the colour of the blood to be partially seen—as occurs in asphyxia. The circulation being suspended, animal heat can no longer be generated, and hence the body becomes cold. The profuse secretion into the intestinal canal is effected at the expense of the water of the blood, which creates a demand upon every part of the system which can supply this waste. Hence the muscles, cellular tissue, &c., are deprived by absorption of their watery constituents, causing a shrivelling of certain parts, as of the fingers and toes, sinking of the eyeballs, &c. This same condition is also observed in some profuse hemorrhages; our esteemed friend, the late Professor Dewees, notices it as occurring in uterine hemorrhage. Thus are the phenomena of collapse produced.

In some cases the profuse secretions from the bowels are arrested, or diminished, either spontaneously, or from the effect of remedies. So long as the profuse secretions from the bowels continue, it is impossible for the absorbents to repair the loss which the blood sustains; these evacuations being arrested, the blood is then thinned by the water taken up by the absorbents, becomes gradually fitted again for circulation in the vessels; and the addition of saline matters derived from the same source restores to that fluid its capacity to undergo the proper vital alterations in the lungs. Reaction is thus produced. The immediate result of this reaction is to repair the disorders occasioned by the intestinal secretions. The excessive secretory action of the gastro-intestinal mucous membrane ceasing, the other secretions, as those of urine, of bile, &c., are again re-established.

The difficulty to the establishment of reaction is proportional to the extent of the lesions in the gastro-intestinal mucous membrane, and to the alteration which the blood has undergone; and the evils which follow this reaction result, at least in great measure, from this change in the blood. The brain here suffers more than any other organs, except the digestive, because the venous circulation is carried on in it by a peculiar apparatus, which renders the progression of the blood slower and more difficult, and which thus easily leads to congestions. This congestion persists notwithstanding the reaction, if the viscid and semi-coagulated blood of the sinus

[1] Gendrin, p. 136.

[2] The experiments of M. Rayer and others show that the presence of salts in the serum is necessary for the blood to be oxygenizable, and consequently that the chemical phenomena of respiration may be effected.

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presents an obstacle to the re-establishment of the cerebral circulation. Congestion is reproduced in the reaction, probably because while there is an augmentation of the activity of the arterial impulsion in the brain, the circulation through the sinuses is still retarded.

Such is the anatomical history of the essential lesions in cholera. It now remains for us to explain certain symptoms and lesions, which, although not essential to the disease, are nevertheless of very frequent occurrence.

The principal seat of the disease, as has been, we think, conclusively shown, is the gastro-intestinal mucous membrane. In this membrane four functions are performed, viz: 1st, secretion on its free surface (by the glands of Peyer and Brunner, and probably by its villi); 2d, nutrition (interstitial de position and removal); 3d, innervation; and 4th, absorption from its free surface. The essential lesion in cholera we have found to be that of the secretory function, productive of a great increase in secretion and an alteration in the fluid secreted; and the loss, to a greater or less extent, of the epithelium of the mucous membrane. It is rare, however, for any function of this membrane to be seriously impaired, without the others being involved to a greater or less extent in the derangement. We have therefore usually, in cholera, derangement of the nutritive function, producing thickening, softening, &c., of this membrane.

The function of innervation is also frequently deranged. This is shown by the intense heat in the epigastrium, urgent thirst, &c. When the irritation is sufficiently intense to be transmitted to the cerebro-spinal system, we have spasms of various muscles. Examples of spasms produced by irritation of the alimentary mucous membranes are furnished in convulsions so frequently caused by the presence of worms or indigestible matters, or of irritating poisons in the intestines. Or this spasm may be caused by the depraved blood supplied to the brain and nervous system.

The function of absorption is lessened and probably absolutely suspended during profound collapse. Extract of belladonna has been given during this condition to the extent of 22 grains without any effect being observed from it. (Clark, in *Med. Rec.*, p. 732) The excessive loss of water by the blood being no longer repaired by absorption, the secondary effects resulting from the change in the state of the blood ensue. When the secretions abate, or are arrested, which frequently occurs, often even in perfect collapse, the absorbents slowly supply to the blood the materials it has lost; the watery fluid it supplies renders the blood more fluid, and fit for circulation; the saline matters it supplies, restore to the blood its capacity for undergoing oxygenation. The mode in which reaction is effected, has not hitherto been explained. We have ventured to attribute it to the supply of water and saline matters to the blood, furnished by the absorbents, and we do not hesitate to believe it to be the true one. We can produce the same effect by injecting saline solution into the veins. The functions, it is known, do not all cease together, the organs die in succession. The function of absorption is among the last to die; it often continues hours after the external phenomena of life have ceased. In one specimen of blood taken from a cholera subject some time *after* death, M. Lassaigne found nearly the same quantity of serum that is contained in healthy blood.[1]

Mr. Prater says that sometimes in cholera the circulation begins after the respiration has ceased, the person being apparently dead. A remarkable case of this kind, he adds, occurred at Newcastle.[2] The increase of temperature after death is owing to the same cause; it is an attempt at reaction. We may here remark that the muscular contractions after death are to be explained on the same principle. Vitality remains in the nervous system, producing muscular contraction after the respiratory and circulatory organs have ceased to perform their functions.

Further evidence of the correctness of these views is furnished by the effects of agents whose mode of action is acknowledged to be that of irritants when applied to the mucous membrane. Thus an overdose of most of the drastic purgatives, and several of the acrid poisons, eating putrid fish, &c., produce effects strikingly analogous to the phenomena of cholera. Mr. Christie states that one of his servants took an over-dose of croton tiglium, which occasioned hypercatharsis, with mucous and se-

[1] Bouillaud, Traité Pratique, &c., p. 224, note.
[2] Experimental Inquiries in Chemical Physiology, p. 249.

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rous evacuations; his pulse became scarcely perceptible at the wrist; his extremities cold; his features contracted; and all the symptoms so strikingly resembled cholera, that Dr. Christie supposed him to be labouring under that disease until the case was explained. (*Op. cit.*, p. 14.) Dr. Christie produced all the symptoms of cholera in dogs by introducing tartar emetic into their stomachs; and we have seen similar effects in the human species from an over-dose of the same article. Elaterium, scammony, hellebore, and other articles of the same class, in excessive doses, often occasion a similar train of symptoms.

It is well known that the symptoms of poisoning by arsenic and other *acrid* poisons so closely resemble those of cholera, that it is often extremely difficult, and sometimes even impossible, to distinguish them. This close resemblance is pointed out in all the works on medical jurisprudence, and has been particularly noticed by Christison, one of the most authoritative writers on the subject. (*On Poisons.*)

In fact, we have, from the action of this class of poisons, vomiting and purging of a fluid similar to that discharged in cholera, spasms, darkness and coldness of the skin, feeble pulse, suppression of urine and other secretions, &c. (*Christison.*)

Finally, a confirmation of the correctness of our views is furnished by the class of persons most obnoxious to cholera. Thus we find it is individuals whose gastro-intestinal mucous membrane is in a state of excitement, or irritation, from the excessive use of spirituous drinks, from the ingestion of indigestible food, &c., who are the most frequent subjects of cholera. In such persons also the course of the disease is rapid—the primary stages are scarcely observed. The reason of all this is evident. The first effect of the choleraic poison is to irritate the digestive mucous membrane, and to establish a fluxion to it. Spirituous liquors, indigestible food, produce the same effect; their action is in the same line, then, with the agent producing cholera. Drunkards, those who indulge in indigestible aliment, then, have their gastro-intestinal mucous membrane in a state of irritation—they are in fact in a condition nearly identical with the first stage of cholera—such persons are known indeed to have habitual diarrhœa. Irritation of the digestive mucous membrane, with its consequences, an afflux of blood to the part being established, in such persons, on the addition of the influence of the cause of cholera, increased osmosis is at once induced, and the phenomena of the second and third stages of the disease promptly appear. That the disease should be generally fatal in the class of persons under notice, is not surprising; they usually fall victims to any disease with which they may be attacked.

The analysis of the symptoms, the order of their occurrence, and the post-mortem appearances—the effects of agents on the alimentary mucous membrane, whose action is known to be irritating—and various facts in the history of the disease, all tend to prove that cholera is an irritation of the gastro-intestinal mucous membrane, always directed to the secretory apparatus of this tissue, and often involving the functions of nutrition and innervation of the same tissue.

The varieties which are observed in this disease arise from the degree in which these several functions are deranged, and to the extent and the portions of the alimentary mucous membrane in which the irritation predominates. The degree to which the functions of nutrition and innervation are involved, appears in a considerable degree to be dependent on temperament. Thus it is observed that in persons of sanguineous temperament, the manifestations of increased secretion, whilst in those of nervous temperament, those of lesion of innervation, as spasms, predominate.

The peculiar fatality of this form of gastro-intestinal irritation depends upon the extent of that irritation, usually from the pharynx to the anus; and to nearly all the functions of the tissue being involved—secretion, nutrition, and innervation.

Such is the outline of what appears to us to be the true pathology of cholera, as we presented them to the Philadelphia Medical Society in the autumn of 1832, and which was published in the *Cholera Gazette* of Nov. 21, of that year. We have now reproduced it with slight alterations and additional evidence in its support. After the réflection we have since given to the subject, it still appears to us to be in entire accordance with all the facts that have been observed, to leave none of the phenomena of the disease unaccounted for, and to lead, moreover, to the only mode of treatment that can claim any success.

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Dr. Johnson's Eliminative Treatment of Cholera.—In our last number, p. 103, we noticed a remark of Prof. Johnson's which we regarded as a virtual abandonment of his eliminative treatment of cholera. In a more recent article (*Med. Times and Gazette*, June 16, 1866), there is a further admission which we consider to the same effect, and shows that the Professor has been driven to great straits in defence of his doctrine. He says:—

"I am aware that many practitioners cannot think of giving a purgative to a sufferer from cholera without a feeling of dread. I am sure that this dread is mainly the result of an imperfect apprehension of what a purgative is intended to do and of what it actually does. The disease is usually attended with a profuse drain of fluid from the blood. *To increase that drain would be mischievous, and might be fatal.* A few doses of castor oil do not increase that peculiar excretion which constitutes the purging of cholera. I know that they do not, by actual observation; and if we look a little closely into the matter, we shall see that an ordinary purgative cannot have the effect which is so much dreaded."

Purgatives, then, according to Prof J., are *not really* eliminative. He may well ask, "what, then, is the object to be attained by emetics and purgatives in cholera?" "The object is," he says, "to stimulate the stomach and intestines to eject their morbid contents, which otherwise might be retained and absorbed."

This is restricting his views of elimination within very narrow limits, and castor oil is only required in those cases in which the bowel is "over-distended and paralyzed by its accumulated contents," and the "choleraic secretions are but slowly and imperfectly discharged without the aid of some artificial evacuant."

Castor oil is therefore not to be given as an eliminant to eliminate a poison from the system, but simply as an evacuant to empty the bowels of their contents when nature fails to do this, which is surely only in exceptional cases.

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Progress of Cholera.—Cholera prevails at various points along the North of France, from Penmarch (Finistère) and Nantes, in the extreme west, to Hesdin and Courcelles-Chaussey. At Amiens it has raged with great intensity. It has also broken out at Lisle. At Bordeaux several cases are reported. Some villages in the Meurthe and of Moselle have been severely visited. Cases have occurred in Paris, but it is not epidemic there.

It has invaded Holland with great intensity, prevailing in Rotterdam, La Haye, Delft, and Amsterdam.

On the 2d of May it broke out at Brussels. At Antwerp, on the 3d of July, from 40 to 50 persons died in the 24 hours.

The latest files of newspapers from the Hague give a long list of the communes in which the epidemic had appeared, and show that up to the 9th of June the attacks in them had amounted to 2,410, the deaths to 1,352. The following returns are also given from the commencement of the outbreak to the 22d of June, 1866:—

	Attacks.	Deaths.
Leyden, . .	1,021	649
The Hague, . .	362	215
Delft, . . .	542	319
Rotterdam, . .	824	503
Dordiecht, . .	346	196
Gouda, . . .	143	73
Utrecht, . .	688	382

According to the *Wiener Med. Wochenschrift* the cholera is widely spreading in Germany.

At Berlin, on July 2d, 39 cholera cases were reported, 15 of which terminated fatally. The total cases from June 16 is 129, of which 79 were fatal.

It is now epidemic in many parts of Pomerania. In Stettin, where it has assumed a threatening character, there have been since the beginning of June 537 cases and 294 deaths.

The disease is said to have broken out at St. Petersburg.

In England the disease has been imported into several ports on the east coast, and it has again appeared on the south coast. It it evidently spreading, though not yet epidemic.

In the United States cases of cholera have occurred at various places, but nowhere can it be said to prevail extensively as an epidemic.

In the city of New York between the 1st of May and the 25th of July the number of deaths from cholera is stated as 56. During the week ending July 21st, there were 11 deaths reported from cholera, and during that ending July 28th, 48.

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In Brooklyn the number of deaths from cholera during the week ending July 28 was 42.

On Ward's, Hart's, Governor's, and Blackwell's Islands in the New York Bay, the disease is said to be prevailing very extensively.

In Jersey City, Elizabethtown, and some other towns in New Jersey, cases have occurred.

In Philadelphia during the past three weeks 32 deaths from cholera have been reported, of which number 19 are reported for last week.

A severe outbreak has occurred among some soldiers who had just arrived from Hart's Island, New York, and landed at Tybee Island, near Savannah, Georgia. At last accounts (July 28th), the number of deaths is said to be 146.

Five cases had also occurred at Galveston, among troops just arrived there from Hart's Island, New York.

CLINICS.

Transfixion of the Base of the Tongue by a Needle; Diagnosis and Removal with the Aid of the Laryngoscope.—The following case, admitted into Westminster Hospital under Dr. GIBB, strikingly illustrates the valuable aid afforded by the laryngoscope in discovering foreign bodies lodged in the throat:—

"Mrs. Annie D., aged seventy-six years, was admitted as an out-patient on May 19th, under Mr. Power, with the impression that she had a pin in her throat. He transferred her to Dr. Gibb for examination by the laryngoscope. She stated that she resided at Dulwich with her daughter, and that two weeks ago she swallowed a pin with some pudding. She felt it prick the throat right across, followed by severe pain, particularly on the left side, and dysphagia. Every now and then she had a choking sensation, with a disposition to retch. On the 13th (Sunday) she became nearly frantic with suffering, and the next day she retched continuously for nearly an hour. She had lived upon slops since the accident, and could only get them down by sipping small quantities. Her sufferings had been so severe that she had become exceedingly weak and feeble, and she was nearly suffocated on her way to town.

"Nothing could be detected externally. The neck was thin, and all the structures were easily distinguished. There was some tenderness across the hyoid bone, especially on the left side, where indeed there was a little tumefaction. In that situation the neck had been much swollen shortly after the foreign body was lodged, but this had subsided to a great extent. The voice was quite natural.

"In the fauces nothing was seen with the unaided eye, but on the tongue being held out and the laryngeal mirror introduced the black point of a needle was seen emerging from the base of the tongue on its left side, near the lateral edge of the epiglottis, and occasionally coming in contact with it to the extent of about two lines. The needle had evidently penetrated the left side of the sac of the pharynx, transfixed the tongue's base in that situation, been driven through its structure, and emerged in the situation described.

"Any attempt at removal, without some guiding point, would have been futile. Dr. Gibb, therefore, made the patient protrude her tongue out of her mouth with firmness and resolution. He then introduced the mirror with his left hand, and with the right inserted a pair of curved forceps capable of holding the minutest body with unusual tenacity, and succeeded in getting hold of the point of the needle, which he pulled outwards towards the right side, and brought out of the mouth. On examination, it was found perfect, quite black, and an inch and a half long. All symptoms of discomfort immediately subsided, and the patient left for her home, expressing herself in terms of gratitude and thankfulness for relief, after what she described as such 'horrid suffering and misery.'

"In some clinical remarks which Dr. Gibb offered upon this case, he observed that it might be taken as an invariable rule that pins were seldom discoloured, whereas needles were always black—an important point in the diagnosis when a portion only of the foreign body was seen with the laryngoscope. The patient's voice and breathing were natural; and although there were occasional attacks of dyspnœa and retching, yet beforehand it could be seen that the larynx was not in any way involved. The dyspnœa, and perhaps the retching, were due to the occasional contact with the edge of the epiglottis. He had recorded several cases in his own experience of the

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removal of pins and other substances, both from the larynx and fauces. In one case a pin had become lodged within the larynx of a gentleman, the head of which was situated in the hollow of the anterior angle of the thyroid cartilage, whilst its point transfixed the right arytenoid cartilage. Symptoms of the most violent strangulation were present, and suffocation was imminent, until removal was accomplished, when they vanished, as it were, by magic. He doubted whether the patient in that instance would have been saved by even opening the trachea, unless the pin had been removed at the same time. In the generality of cases perfection of voice and breathing pointed to freedom of the larynx; but when the body could not be felt by the finger, and then removed, the employment of the laryngoscope afforded great assistance in diagnosis."—*Lancet*, June 30, 1866.

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Necrosis of the Lower Jaw from Application of Tobacco Oil to a Hollow Tooth; Removal of Dead Bone.—Smoking has long been a popular remedy for toothache, and we believe the sailor's quid enjoys a still greater reputation as a local application under these trying circumstances. In the case to which we now refer, the unfortunate patient, through his application of the remedy in a highly concentrated form, set up inflammatory action, which destroyed a large portion of his jaw.

An Italian sailor was placed, under the influence of chloroform, upon the operating table on the 26th ultimo. Just under his left lower jaw the skin was ulcerated, and there was a sinus communicating with dead bone. Mr. Paget removed several of the teeth, and then, without making any incision, contrived, with the aid of a strong forceps, to remove several sequestra representing a portion of the base, the angle, and a large part of the ascending ramus of the left lower maxilla.

From Mr. Paget's remarks, we gathered that the man, just previous to starting from Australia three months ago, suffered very much from a carious tooth. To relieve the pain, he introduced into the hollow some of the oil of tobacco which had accumulated in the stem of his pipe. Violent inflammation of the periosteum and of the surface of bone was set up, ending in death of the osseous tissue. Mr. Paget remarked, incidentally, that there was great uncertainty as to the period at which sequestra were removable. As a general rule, the more acute the necrosis the more rapid the separation of the fragment; so that within three months of acute necrosis one might expect to find the sequestrum loose, as was the case in the present instance.

The case well illustrates a source of danger which is not generally recognized. The practice of smoking is very widely spread, and foul pipes, as well as carious teeth, are very common. Every smoker of a pipe has been disgusted now and then by sucking into his mouth a few drops of the highly pungent and nauseous product of the combustion of tobacco. In the action of smoking, the tip of the tongue ordinarily receives this deleterious fluid, and is very often blistered in consequence. Were it not for the tongue, one can readily imagine that hollow teeth would often receive this fluid; with what amount of risk the case before us well shows. It is well known that for phosphorus to excite the inflammatory action which so often affects the lucifer match workers the fumes must be applied to a raw vascular surface in immediate connection with the nutrition of bone. This almost always happens through the medium of a carious tooth. There is no reason to suppose that tobacco oil would set up inflammation except under similar circumstances. It is, however, very probable that some cases of acute necrosis of the lower jaw, of obscure origin, may have really originated from the accidental poisoning of tooth-pulp by this liquid; and the possibility of this source of disease should be borne in mind.—*Lancet*, June 23, 1866.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Health of Philadelphia.—In our last number we stated that the general mortality, as well as that from the prevailing diseases of the season (bowel complaints), was less than usual. Since then, as will be seen from the following table showing the mortality for the last four weeks with that of the corresponding weeks of last year, a marked change has taken place. Not only has the mortality from bowel complaints largely increased, but during the week ending July 21, the general mortality reached the unprecedented amount of 716; of which as many as 50 were from

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sunstroke. This may be with probability ascribed in part to the unparalleled heat experienced during that period, and this conclusion derives support from the fact that with the diminution of heat during the past week the mortality has decreased to 472, which is not a great many more than that of the corresponding week of last year (427). The deaths from bowel complaints have likewise decreased from 238 the previous week to 167 last week.

	Mortality from						
	Cholera Infantum.	Diarrhœa.	Dysentery.	Cholera Morbus.	Total from Bowel Affections.	Total Mortality from all Diseases.	Sunstroke.
1866.							
Week ending July 7,	57	6	2	4	69	324	5
" " " 14,	101	18	11	13[1]	143	472	10
" " " 21,	168	14	25	31[2]	238	716	50
" " " 28,	101	10	17	39[3]	167	472	7
1865.							
Week ending July 8,	112	19	23	4	158	438	
" " " 15,	101	20	23	4	148	453	
" " " 22,	75	18	33	3	129	443	
" " " 29,	76	27	35	2	140	427	

Medical and Surgical History of the Rebellion.—The Surgeon-General has published extracts from letters received from some of the most eminent surgeons and physicians strongly eulogistic of Circular No. 6, and urging the importance of the publication of the valuable materials collected in relation to the Medical and Surgical History of the War. It would be almost criminal not to render these materials available for the cause of humanity and science.

—

American Medical Association.—The Prize Essay Committee of the American Medical Association request that all communications to be submitted to them be sent to their Chairman before the 15th day of March next, accompanied by a sealed envelope containing the name and address of the authors. The Association offers two prizes of one hundred dollars each, for the best two essays on any subject connected with the medical sciences. F. Donaldson, *Chairman;* W. Chew Van Bibber, Josiah Simpson, Edward Warren, C. C. Cox.

Baltimore, June 25, 1866.

N. B. The medical journals throughout the country will please insert the above.

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Massachusetts Medical College.—At the commencement of Harvard University, on the 18th July, the degree of M. D. was conferred on thirty candidates.

Dr. Austin Flint's Treatise on the Principles and Practice of Medicine.—The very favourable reception which the recent Treatise on the Principles and Practice of Medicine by our countryman, Dr. Flint, has everywhere met with, not only at home, but also abroad, is extremely gratifying. The *Lancet*, a journal not usually disposed to judge favourably of our cisatlantic publications, in a recent No. (June 23d), notices Dr. Flint's treatise in the most complimentary terms. The reviewer states that "in the plan of the work and the treatment of individual subjects there is a freshness and an originality which make it worthy of the study of practitioners as well as students. It is, indeed, an admirable book, and highly creditable to American medicine. For clearness and conciseness in style; for careful reasoning upon what is known; for lucid distinction between what we know and what we do not know, between what nature does in disease and what the physician can do and should; for richness in good clinical observation; for independence of statement and opinion on great points of practice, and for general sagacity and good judgment, the work is most meritorious. It is singularly rich in good qualities and free from faults. Dr. Flint does not care from what source he derives material for the formation of

[1] Of these 10 are reported simply cholera.
[2] Of these 19 are reported simply cholera.
[3] Of these 18 are reported simply cholera.

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opinion, and he is always explicit in his statement of the source. He defers greatly to physiologists and chemists, but has a keen perception of the point at which they cease to help the physician; and beyond this point, and in the absence of these guides, he comes to the best opinion to which his long and close clinical observation enables him to come." * * *

"We are sorry to be unable to draw more largely from Dr. Flint's book. We are sure that a more minute acquaintance with it, which we would recommend our English readers to make, will lead them to concur with us in the very high opinion of it which we have expressed above."

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Citizens' Association of Pennsylvania.—An Association has lately been chartered under this title, the object of which is to inquire into the causes of the rapid increase of pauperism, vagrancy, crime, and intemperance, and to institute measures, if possible, that shall lead to improved legislation concerning them, and to a better state of public morals and safety. The Association has just issued an address calling attention to their objects, and urging the formation of branch associations in the various towns and counties of the Commonwealth, and in the different wards of our cities, to aid in the accomplishment of their purposes.

Another important sphere of labour is the "purchase of lands and erection of buildings for the cure of the intemperate," and to this latter end the action of the Board of Directors is especially directed at the present time.

It is proposed "to offer the means of recovery, if possible, to those who may desire to accept them, and to place those means within reach of the friends of such as may be lost to the desire for good. It is not the intention to erect a large and forbidding edifice, with even the appearance of a public charity, a reformatory or penal establishment, but a series of cottages, where the domestic idea and habits of the family may be observed and perpetuated. Homes to which persons may go without any compromise of their self-respect, subjecting themselves only to such treatment and discipline as their condition may require, and where the allurements of literature and art may be secured to them, with a hope of restoring and improving the taste for the good and the true. These homes will be erected in the country, and we will endeavour to make them as attractive in situation and external surroundings as possible."

To carry out this most philanthropic and useful project, the Association appeal to their fellow-citizens for sympathy, co-operation, and pecuniary contributions.

Three hundred thousand dollars will be required to completely carry out the plan, but so soon as fifty thousand are paid a commencement will be made, for, according to the plan proposed, a few can very soon be placed under treatment.

We most earnestly commend this project to the favourable consideration of the public. Contributions may be sent to Dr. Jos. Parrish, or to either of the directors, or to the Provident Life and Trust Company, No. 111 South Fourth Street, Philadelphia.

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Prize of the Medical Society of the State of Pennsylvania.—A distinguished member of the profession, whose name we are not authorized to divulge, has placed into the hands of the Treasurer of *The Medical Society of the State of Pennsylvania* the sum of twenty-five dollars, which will be awarded to the author of the best essay on any subject pertaining to the science of medicine or surgery. The essay must be forwarded on or before the first day of May, 1867, to either of the "Standing Committee," consisting of Drs. James King, of Pittsburg, B. R. Mowry, of Alleghany City, and Prof. Traill Green, of Easton, and must be considered, in the united judgment of said committee, worthy of a prize. Each competitor is also required to affix a motto to his paper, and to accompany it with a sealed envelope having inscribed on it the same motto, and inclosing the author's name. The seal of the essay to which the prize may be awarded shall not be broken until the next annual meeting of the Society, to be held at Pittsburg, Pa., on the second Wednesday of June, 1867, when the name of the author will be announced. The other essays, upon application, will be returned to their respective authors, with the envelopes unopened.

FOREIGN INTELLIGENCE.

Diagnosis of Pregnancy.—M. Mattei, in a recent communication to the Imperial Academy of Medicine, stated his conviction that pregnancy may be accurately diagnosed

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during the first four months by combined deep-seated abdominal palpation and vaginal exploration. He asserts that in this way pregnancy may very often be pronounced upon positively at the end of the first month, almost always at the end of the second, and always during the third and fourth months, unless some exceptional circumstances, which are of exceedingly rare occurrence, are present. The principle upon which this statement is founded is that the uterus cannot be gravid without alteration in its size and without presenting special anatomical and physiological modifications. Another important fact which M. Mattei says he has demonstrated, is that the gravid uterus in four instances out of five is in a state of anteversion, and in once out of five or six times in retroversion, being rarely maintained in the straight line. Each of these positions has its special signs month by month, and which have been studied by M. Mattei by aid of palpation and vaginal *toucher*. For example, in anteversion he has found that the uterine fundus is on a level with the pubes from the end of the first month, or even before that period. When the uterus remains straight or is retroverted, the diagnosis can only be made from the third month. M. Mattei gives rules for the production and perception of the uterine *ballottement*, which is to be distinguished from the fœtal.

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Menstruation and Abortion at 72 years of Age.—Dr. PRIOU mentions this case in the *Bulletin de la Société de Médecine d'Angers:* The patient, seventy-two years of age, began menstruating at sixteen, married at twenty-eight, and had six children, the last of whom she bore when she was forty-eight. She suckled this child, and saw no catamenia afterwards.—*Lancet*, April 7, 1866.

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Degeneration of the Human Race from residing in Crowded Cities.—There can be little doubt that about the great centres of civilization man is carrying out his sociable tendencies to such an extent as to detract considerably from the enhancement of his personal welfare, looked at in a physiological or medical point of view. He has become so fond of his neighbour, and his neighbour so fond of him, that they are almost inseparable. Their friends are in the same way of thinking, and hence all join company and form compact fraternization. But the consequence is, that they are in too close contact, and so continuously add to their number that at length they scarcely allow themselves room to move. There is no fresh air for them; they are forced to breathe their own and their neighbours' exhalations over and over again. There are so many of them in so small a space that they cannot well get rid of their refuse matters, scarcely of their own excreta. If anything in the shape of an infectious disease attacks one, it spreads like wildfire, of course, amongst the others; and even moral delinquencies are found to be in the same way catching, for if a "black sheep" gets among the flock, it is well known that "evil communications corrupt good manners." If the consequences, then, of this social agglomeration be, on the one hand, increase of political power, of wealth, of commercial and social prosperity, and successful competition with other nations, they are, on the other, an overtaxing of the physical and mental energies at our disposal, and a premature consumption of national life-blood. To see all this we have but to scrutinize the character and results of that which has been called in recent days the "great town system." To witness it in perfection we should observe the effects of this system on the physical condition and modes of life, particularly of the industrial poor of a great city. If we do this it will certainly be found just as the honorary secretary of the Manchester Sanitary Association and physician to the Salford Hospital assures us is the case.[1] There will be observed, as he states, amongst this class a singular want of stamina manifesting itself either in the gait, bearing, voice, or frame. The muscular system is rarely fully developed or well strung. Few men are of that calibre from which we might expect either vigorous or healthy offspring, or arduous and sustained labour. Cases of deformity, along with actual distortion, are far from unfrequent, while minor physical defects, many of them denoting no trifling constitutional ailments, are deplorably common. The pulse, telling of the power of the heart, assures us the great central organ of the circulation is weak and flabby. The extremities are often cold in the younger

[1] The Danger of Deterioration of Race from the too rapid increase of Great Cities. By John Edward Morgan, M. D., &c. London: Longmans.

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people; the veins prominent and tortuous in the adult, and the elders complain of vertigo. Blanched lips and colourless cheeks are common to men as to women, whilst hysteria and neuralgia are to be met with under protean and abundant forms. In fine, the blood is proved to be impoverished. and the nervous system devoid of that well-balanced tension on which the easy and harmonious working of the whole system so mainly depends. In the children of this class, again, the teeth are no sooner developed than they begin to decay; enlarged glands protrude from the neck; the skin looks dry and parched; the hair scanty, scrubby, or withered. If we extend our inquiries, we shall find too that of the number of military recruits derived from the population of our great towns, nearly four out of five fail to come up to that standard of bodily fitness which the army medical referees are instructed to insist on.—*Lancet*, June 23, 1866.

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Antagonism of Race to Race.—When alluding to the influence of the antagonism of race to race in the production of the recent Jamaica rebellion, we pointed out how difficult it was for peoples of different origin to become amalgamated in social character and civilized economy. Here lies a difficulty as great as with their physical aspect and confirmation, in which they will ever remain distinct so long as they do not mix much together in marriage. And when this latter circumstance happens, a mixed breed ensues, incapable of maintaining itself as a fertile established race, but ever merging into one of its original stocks; the rapidity of the return, and the selection of the parent, being dependent on well-known circumstances unnecessary now to mention. Too often this divergency of race from race tends to such periodical outbursts of one against the other as we have of late years witnessed in India, the Gulf of Mexico, South America, New Zealand, and the Cape. It matters little who begins the business, the defendant becomes as eagerly pugnacious and exterminative as the plaintiff when once the gauntlet is thrown down.—*Lancet*, March 24, 1866.

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Suicides in Vienna.—During the month of April there were sixty-five attempts at suicide at Vienna, thirty-six of which ended fatally. Forty-seven of them were committed by men, fifteen by women, and three by children from nine to fourteen years of age. Twenty-two persons hanged themselves, eleven took poison, five cut their throats, two shot themselves, and seven died of self-inflicted stabs.—*Lancet*, June 9, 1866.

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Cattle Plague.—Dr. J. Burdon Sanderson has discovered that the blood of the animal affected with cattle plague contains the poison of the malady, so that serum obtained from it will give the disease by inoculation. "This fact," say the Commissioners, "is the most important pathological discovery yet made in cattle plague. It is pregnant with consequences in medical doctrine; for though the existence of a similar fact has been long suspected in several human diseases, it has never been proved in any."—*Lancet*, June 30, 1866.

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International Medical Congress.—The preliminary steps have been taken for the assembling in Paris, at the time of the Universal Exhibition, in 1867, of an International Medical Congress. With this view a central committee has been formed at Paris, who have elected the following officers: *President*, M. Bouillaud; *Vice-Presidents*, MM. Denonvilliers, Gavaret, and Tardieu; *Secretary*, M. Jacoud; *Treasurer*, M. E. Vidal.

This scheme has been sanctioned by the French government, and the Paris committee are preparing the rules and programme of the Congress, which they promise to communicate so soon as determined on. In the mean time we cheerfully comply with the request made to us, to make known the project, and ask the co-operation of the profession in this country.

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Discovery of a Mammoth.—At a late sitting of the Academy of Sciences a letter was received from M. de Baer, of St. Petersburg, announcing that a mammoth, still covered with its skin and hair, had been discovered in the frozen soil of Arctic Siberia. This discovery had been made in 1864 by a Samoyede in the environs of Taz Bay, the eastern branch of the Gulf of Obi. The news only reached St. Petersburg towards the end of 1865; but as the bodies of large animals will keep a long while in those regions, if they are not completely uncovered, and as this mammoth

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was still inclosed in the frozen soil, the Academy of St. Petersburg has, with the aid of the Russian Government, sent M. Schmidt, a distinguished palæontologist, to examine the animal and its position in the locality. It is hoped M. Schmidt will arrive before the decomposition is too far advanced, and that a correct notion may be obtained of the outer appearance of the animal, and also, from the contents of the stomach, of its natural food. The pre-historical figure of the mammoth drawn on a piece of ivory, found in a cavern of Périgord by M. Lartet, will then admit of verification.—*Med. Times and Gaz.*, April 28, 1866.

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Unequal Justice.—The following remarks were lately made by the Judge sitting at the Old Bailey to a prisoner convicted of receiving money on false pretences, the pretence being that he was an attorney. The sum received was altogether only £47, and the prisoner obtained it by pretending that he would conduct some Chancery business for the prosecutor. The Judge's speech shows the severe manner in which our law punishes a man for pretending to be an attorney, while it does not punish him at all for pretending to be a physician or a surgeon. The law evidently supposes that it is a criminal act for a man to presume to conduct a lawsuit without possessing a legal qualification, but that it is quite immaterial for an unqualified man to pretend to cure diseases and to defraud the public of their money under this pretence. The quack attorney, it will be seen, is utterly ruined, his wife and children are reduced to beggary, and he is (as a lenient sentence) imprisoned and kept to hard labour for four calendar months; the quack doctor, under precisely similar circumstances, would have been triumphantly acquitted, under the direction of the judge, and on his retirement from the dock would have been, in all probability, received with shouts of acclamation by the multitude.—*The Medical Press and Circular*, Feb. 7, 1866.

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Visit of the French Empress to the Cholera Hospitals at Amiens.—Great excitement has been created in France by the visit of the Empress Eugénie to Amiens The cholera has been raging there to such an extent that the assizes were indefinitely postponed. Eighty deaths a day have been recorded, and it is said that no medical records exist of any European city having been so devastated by cholera as Amiens has been for the last three weeks. The Empress arrived in Amiens at half-past ten in the morning, and then proceeded to the Hôtel Dieu, visiting all the cholera wards, and thence proceeding to the various charitable refuges, &c., thus passing the whole day. Whatever practical utility there may be in such a visit, there can be but one opinion as to the noble self-devotedness, sympathy, and courage that prompted it. It is said that when complimented by a French marshal on the courage displayed by her on this and a previous similar occasion, her Majesty replied, "Monsieur, c'est notre manière d'aller au feu." The Municipal Council of Amiens have voted an address of gratitude to her for her visit, and ordered that a commemorative medal in gold should be sent to her. The last sanitary report gives forty deaths by cholera on Monday.—*Lancet*, July 14, 1866.

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The Great Prize in Electricity.—The French Government has issued an invitation to the *savants* of all nations to compete for the prize of 50,000 frs. which will be decreed five years hence to the author who shall have discovered the means of rendering Volta's pile economically applicable to manufactures as a source of heat, to illumination, to chemistry, mechanics, or practical medicine. The *concours* will remain open for five years, dating from April 18, 1866.—*Med. Times and Gaz.*, April 28, 1866.

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International Ophthalmological Congress.—The meeting of this Association, which was to have convened in Vienna in August of this year, has been postponed on account of the war existing now in Europe.

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Obituary Record.—Died in London, July 8th, 1866, Joseph Toynbee, Esq., F. R. S., aged 51; well known by his extensive and valuable contributions to Aural Pathology and Surgery. He met with his death accidentally while prosecuting his experiments, by inhaling a combination of chloroform and prussic acid.

The Death of the Baroness Dupuytren, widow of the illustrious surgeon, is announced in late French journals. She had reached a very advanced age.

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THE MEDICAL NEWS AND LIBRARY.

VOL XXIV. SEPTEMBER, 1866. No. 285.

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CHOLERA.

Pathological Anatomy of Cholera.—In the last No. of this Journal (p. 125), we alluded to the observations first made by the late Prof. Horner, of the University of Pennsylvania, that after death from cholera, the epithelium of the mucous membrane of the alimentary canal is found exfoliated to a greater or less extent. In two valuable papers published in the *American Journal of the Medical Sciences* for May and August, 1835, Prof. Horner states that he found the following anatomical characters in the alimentary canal after death from cholera:—

"1st. A copious vesicular eruption, entirely distinct from the tumefaction of villi, muciparous follicles or glands, and which pervades the whole canal.

"2d. A lining membrane of coagulated lymph, which exists in the small intestines at least, if not in the stomach and colon also, and resembles in texture and mode of adhesion the membrane of croup.

"3d. Vascular derangements and phenomena which are confined almost exclusively, if not entirely so, to the venous system.

"4th. An exfoliation of the epidermic lining of the alimentary canal, whereby the extremities of the venous system are denuded and left patulous."

The croupy or diphtheritic exudation on the mucous membrane has been also observed by Virchow, Cruveilhier, and is fully described by Reinhardt and Leubuscher, who state that they found the congested mucous membrane of the large and small intestine "infiltrated to a greater or less extent with a solid exudation which, after Virchow, we would designate 'diphtheritic.' This exudation contained but little water, was of a grayish or yellowish-white colour, and under the microscope was amorphous. It was rendered translucent by acetic acid and caustic alkali, but resisted the action of the former for some time. The deposit began in the superficial

Published monthly by HENRY C. LEA, No. 706 & 708 Sansom Street, Philadelphia, *for One Dollar a year; also, furnished* GRATUITOUSLY *to all subscribers of the "American Journal of the Medical Sciences," who remit the Annual Subscription, Five Dollars, in advance, in which case both periodicals are sent by mail free of postage.*

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layers of the mucous membrane, and was mostly confined to the membrane itself, but in certain parts it extended somewhat beyond, as in the small intestine where it filled up the spaces between the villi, fusing them together into a continuous mass, in which, by the aid of the microscope, the outline and tissue of some of the villi could occasionally be distinguished." * * * The extent of the effusion varies extremely. "Those parts where the hyperæmia has been most marked in the cold stage were principally affected. In the small intestine the ileum was the principal seat of the diphtheritic inflammation, particularly the vicinity of the ileo-cœcal valve, from which point it extended, lessening in intensity, to a variable distance upwards into the ileum or even into the jejunum." * * * "The exudation, without undergoing any degree of organization, gradually softened, the tissue in which it was contained softened with it. This process of disintegration commenced on the surface, and by extension to deeper parts produced a *loss of substance* of variable extent; subsequently having the character of common ulceration. In general, however, the cases were fatal before the diphtheritic matter was fully thrown off." (See *Gull's Report*, pp. 57-58.)

This diphtheritic exudation was also found on the lining membrane of the gall bladder by Pirogoff, Reinhardt and Leubuscher; and Briquet and Mignot record similar observations upon the occasional occurrence of inflammation of the gall bladder and ducts, with diphtheritic exudation upon the surface of the mucous membrane.

Some of the anatomical characters described by Prof. Horner have not been noticed by other observers, and with a view to further elucidate the subject, the College of Physicians of Philadelphia appointed a committee during the prevalence of the disease in 1849, to investigate the subject, and their report is worthy of especial consideration.

The subject was brought to the attention of the College on the 19th of June, 1849, by Professor Jackson, who remarked that "our great object in the investigation of the pathology of cholera was to arrive at facts clearly and accurately established. At present all is doubt, speculation, and hypothesis. The disease is now amongst us; let us examine it systematically and thoroughly, without prejudice, and unbiassed by the authority of names or systems. What are the anatomical lesions in cholera? We have it asserted, first by Dr. Horner, and subsequently by Dr. Boehm, of Berlin, that they consist in certain changes which occur in the mucous membrane of the alimentary canal, which are characteristic of the disease. Here then, is something definite to start with. Let us investigate the subject for ourselves, and ascertain whether the observations upon which the deductions of the two pathologists just named, are based, are correct. The ordinary procedure of laying open the intestines, and hastily examining their internal surface with the naked eye, amounts to nothing; the parts to be examined must be macerated and injected, and then examined by the aid of the microscope. This is the course that has been pursued by Dr. Horner, who has pointed out the only true method of prosecuting the inquiry. To arrive at any definite results, this plan must be followed out by good anatomists, and experienced microscopists. In this manner, and by such investigators, must the facts in relation to this subject be collected, and the result placed before the profession in the form of a report.

"Dr. Jackson moved, therefore, the appointment of a committee to investigate the anatomical lesions of the intestinal mucous membrane in cholera, and report the result of their labours at a future meeting of the College."

Under this resolution, Drs. Jackson, Neill, Pepper, H. H. Smith, and Goddard were appointed the Committee.

At the meeting of the College held on the 4th of December following, Professor Jackson submitted a report in which it was stated that:—

"The ordinary autopsical examinations heretofore practised, have failed to yield any satisfactory information, and are nearly useless for the purposes of science.

"Extensive structural lesions may exist that cannot be seen or very imperfectly discerned by the unaided sight, and without proper preparation.

"It was determined by the Committee that the intestines, before being submitted to examination, should be finely injected, and subsequently inspected with the microscope.

"This task was undertaken for the Com-

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mittee, by Dr. John Neill, Demonstrator of anatomy in the University of Pennsylvania. The admirable manner in which he has performed this duty can be judged of by the beautiful preparations now on the table, which he has presented to the College for its museum.

"The injections are made with turpentine coloured with vermilion. It was found by Dr. Neill, that when he employed size, it did not penetrate well, and numbers of capillaries were not filled; the same result occurred when Canada balsam was used. It led, at first, to the supposition that the capillaries were destroyed by the disease. The method last adopted, as the fine preparations on the table demonstrate, show the perfect integrity of the capillaries.

"A healthy intestine, taken from a subject who had died of pleurisy, was first injected as a standard of comparison. * * *

"The Committee, confining themselves strictly to the single object for which they were appointed, report the following facts as the result of their investigation. The preparations and drawings on the table will enable the Fellows to determine on the accuracy of the statement.

"1st. In the recent subject, the peritoneal coat, like all the serous membranes, was in all, remarkably dry. The lubricating serosity is deficient in the serous membranes.

"2d. The epithelial layer of the intestinal mucous membrane was, in all the specimens, either entirely removed, or was detached, adhering loosely as a pulpy layer mixed with mucus or an albuminoid substance. * * * * * *

"3d. *Peyerian glands.* Peyer's glands were developed to a greater or less extent in all the cases examined. * * *

"4th. *Solitary glands.* These were also developed, and contained, in the recent subject, a minute quantity of white substance. * * * * * * * * *

"5th. *Villi.* They are denuded of the epithelial covering, but are unchanged in other respects. * * * * *

"6th *Capillary Vessels.* These are entire and manifest no departure from their normal state. The appearance of the capillaries of a cholera intestine is identical with those of the healthy mucous membrane when the epithelium has been removed. In the natural state the epithelium, from its thickness, conceals the injected capillaries. * * *

"In no instance was a vesicular eruption observed."

The foregoing facts, derived from the examination of twenty-five subjects, illustrated by preparations most carefully made by Dr. Neill, are of the highest value, and shed important light on the pathological anatomy of cholera. They have been strangely overlooked, and we will therefore refer to the published *Transactions* of the college and also to the number of the *American Journal of the Medical Sciences* for April, 1850, in which will be found the report in full with coloured drawings of Dr. Neill's preparations.

Dr. Neill's preparations presented to the College are still preserved in their Pathological Museum at the Hall of the College.

These investigations, as well as the facts already stated, fully demonstrate that the alimentary canal is the seat of the morbid actions which constitute cholera. Whether or not the cause of cholera, whatever it may be, acts primarily on the ganglionic nervous centres and through them on the intestinal canal, or its primary action is on the latter, we leave it to others to discuss.[1] Either theories will explain all the phenomena; but as no lesions have been usually found in the ganglionic nervous centres, while those in the alimentary tube are constant and serious, it seems questionable whether it is sound philosophy to go beyond the latter or to seek for more causes than are sufficient to account for the phenomena of the disease.

The Berlin pathologists, whose attention was particularly arrested by the occurrence of amorphous granular fibrin in and upon the affected surface of the mucous membrane, regarded cholera as a "*destructive diphtheritic inflammation.*" We must agree with Dr. Gull that "such generalizations, however plausible, are of little value, and that we arrest inquiry by their adoption." The excessive exosmosis from the mucous membrane of the alimentary canal, by depriving the blood of its most important anatomical element—water—and its salts, suffices in our judgment to fully account for all the phenomena of the disease.

[1] That the cause of cholera does not act primarily on the blood, inducing a change in it which leads to exosmosis of its fluid constituents and salts, is shown by the investigations of Dr. O'Shaughnessy, which demonstrate that no changes can be discovered in the blood until *after* the exosmosis has occurred.

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Dr. Gull, in his report (p. 118), speaks of the loss of the epithelium as "in itself an unimportant change." We cannot so regard it. On the contrary, we believe it to be a most disastrous condition, and disastrous exactly in proportion to its extent. Not only by the destruction of the mechanism of absorption which it involves, does it constitute the great obstacle to the restorative processes, preventing the supply to the blood of the materials it has lost, and rendering remedies inoperative; but the irritation resulting, when a large surface is denuded, may of itself prove fatal, like an extensive scald of the skin, even when very superficial.

We are happy to quote in support of our views so high an authority as Dr. Lionel Beale, the first number of whose "Microscopical Researches on Cholera" (*Med Times and Gaz*, Aug. 4, 1860) has reached us since the above article was in type.

This eminent microscopist says: "Every one who has seen cholera has been struck by the remarkable characters of the matter discharged from the intestinal tube, and those who have made post-mortems are familiar with the fact that the small intestines almost always contain a considerable quantity of pale, almost colourless gruel, rice, or cream-like matter. This has been proved to consist almost entirely of columnar epithelium, and in very many cases large flakes can be found, consisting of several uninjured epithelial sheaths of the villi. I have often found such sheaths in the stools in previous epidemics, and probably every one who has carefully observed the disease will have inclined towards the opinion that in bad cases it is probable that almost every villus, from the pylorus to the ileo-cæcal valve, has been stripped of its epithelial coating during life.

"This alteration in the apparatus concerned in the absorption of all nutrient matters from the intestinal canal, and the changes accompanying it and preceding it, are probably sufficient to account for death by collapse. Most important, therefore, is it to ascertain, if possible, the several phenomena of which this denudation of epithelium is the climax, and the order in which they occur. These important organs, the villi, are, in a very bad case, all, or nearly all, left bare, and a very essential part of what constitutes the absorbing apparatus is completely destroyed. If only a considerable portion of a villus was denuded, reparation might doubtless occur by new growth from the cells which remained, but if the villus was entirely stripped, it is more probable that it would waste, and its place be at length occupied by a new one, which would grow from its base, than that epithelium would grow anew from its bare surface. It is probable that the extent of this process of denudation determines the severity or mildness of the attack. If the great majority of the villi have suffered, it is scarcely reasonable to consider recovery more probable than it would be after a very extensive burn or scald."

—

Pathology of Cholera.—Dr. G. H. Barlow, Physician to Guy's Hospital, has very recently published (*Med. Times and Gaz.*, July 28, and Aug. 4th, 1866) some investigations which strongly sustain the views we have endeavoured to establish in our last No., in regard to the importance of water in the animal system, and the disastrous effects resulting from its rapid loss. We strongly recommend his observations to the consideration of our readers.

Dr. Barlow inquires: "1. What is the office performed by water in the animal economy? 2. What are the effects to be apprehended from its defect or rapid withdrawal? 3. How far are these *a priori* anticipations verified in other diseases than cholera? or, to put the proposition in a more comprehensible form, what symptoms do we observe when the admission of water into the circulation is interfered with, or when it is too rapidly eliminated from the system, or when the right performance of its functions is interfered with by disease in any organ! 4. How do these symptoms coincide with the prominent ones observed in the more advanced stages of cholera? And here I would observe that in the diarrhœa of cholera we have to do with the withdrawal of serosity—that is, of water with a small amount of salts—from the system; and that, therefore, I reject, as leading to error, all analogies drawn from the abstraction of blood or even serous fluids, though I may hereafter advert to the effects of such discharges as affording by contrast a remarkable confutation of the views in support of which they have been adduced. What, then, is the office of water in the animal economy? The water which is received into the stomach is, with such

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soluble matters contained in it as are not decomposed in the primæ viæ, taken up by the capillary branches of the veins which converge to form the venæ portæ, carried onwards with the blood through the trunk of that vein; here a portion of it is separated in order to furnish a solvent for the solid contents of the bile. Passing onwards through the pulmonic and systemic circulation, the redundant water of the blood carries with it those inorganic soluble matters which it contained at first, and receives, or rather acts as a solvent to, those effete products of the interaction of the blood and the tissues which are to be expelled from the system, or at least from the nourishing fluid. Holding these substances in solution, it is carried on with the current of the blood to the other great excretory organs, the skin and the kidneys, whence it passes out of the system, carrying with it the substances which each of those organs is designed to eliminate, but which it cannot remove unless brought to it in solution.

Before proceeding to reply to my second query, I may remark that the entrance of water into the circulation may be opposed as it were *in limine* by obstructions high up in the alimentary canal; again, its passage may be intercepted in the portal system, as by disease of the liver, or even further on in the heart and lungs; all which obstructions may be so great as to prevent there being such a supply of redundant water in the blood as is requisite for the solution of the excretory matter, and from this cause there may arise inquination of the blood by these substances.

When the ingestion of fluid is obstructed at the commencement of the small intestine, we should apprehend, *a priori*, general diminution of the volume of the circulation, with changes in the physical character of the blood arising from the defect of water in proportion to the other ingredients; and as the effect of this, derangement of the circulation, gradual failure of the motor powers of the heart from the withdrawal of its natural stimulus, consequent congestion of the lungs, lividity, suppressed secretion, and urgent thirst. When the obstruction is further on in the course of the circulation—as in disease of the liver, whether primary or arising from obstructed circulation in the chest—we should anticipate, as regards the circulation, effects much of the same kind as in the former instance, though of a less intense character; since we cannot conceive of any obstruction taking place in the portal or pulmonic circulation, such as would intercept the current of the fluid so perfectly as occurs sometimes in obstruction in the small intestine. There would also be this difference that the obstruction would be either in or beyond the circulation through the liver; and, therefore, we should anticipate escape of fluid from the circulation tergal to the obstruction and the effects of a deficiency of fluid beyond. We should, in fact, expect no deficiency in the biliary secretion, but rather a tendency to diarrhœa or dropsy, the congestion, lividity, and diminished secretion from the kidneys being the same as in the former instance. It is needless to occupy time by speaking of obstructions further on in the system than the mitral valve, since beyond it the fluid may be considered to have fairly found its way into the circulation; and although such obstructions do occur, they are propagated backwards, and ultimately resolve themselves into obstructions at or tergal to the mitral valve. I therefore pass on to the main outlet by which the fluid makes its exit from the system, and through which it ought to carry the soluble excretory matter, the urea, the urates, etc. Now, if this organ be diseased so as to obstruct the exit of the fluid, we should expect the effects of retained fluid, such as dropsy, together with those of toxæmia—*e g.* head affection, spasm; but if it were so affected that it allowed the passage of the fluid, but not the elimination of the excretory matters, we should expect the uræmic symptoms only.

I now proceed to the third query, How far are these *a priori* anticipations verified by what we actually meet with in disease? Most of us have seen several—few can have been long engaged in practice, or have spent any time in the wards of our hospitals, without witnessing some—of those cases in which there is obstruction in the duodenum, or high in the jejunum. The appearance of the subject of this serious lesion cannot but strike any one who has an eye for what I would call the physiognomy of disease. I am somewhat anticipating, but I do not hesitate to aver that to the eye he presents the most exact resemblance to a cholera patient—not a mere approach to it. And what have we to account for this condition? All the ingesta taken into the stomach are instantly rejected—there can no fluid pass

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into the small intestines or be absorbed thence by the mesenteric veins, the drain from the blood by the excretions cannot be repaired, and the fluidity of the blood is not maintained. The impaired fluidity of the blood prevents the access of that fluid to the air in the lungs, and one important moving power of the pulmonic circulation is suspended—I would rather say that *the* motor power of the capillary circulation of that system is so—and what is the consequence? The blood is arrested in the pulmonic arteries, there are pulmonic congestion and its consequences, lividity, a short cough, dyspnœa, a husky voice; but more than this, the fluidity of the blood being nearly destroyed, the interaction between the blood and the tissues in the systemic circulation languishes, organic functions, or, at all events, the eremacausis, upon which animal heat depends, is arrested, and therefore the temperature rapidly sinks; when we come to examine this patient more closely we shall find that, though able to speak, to move himself, to sit up in bed, and even to walk, he is pulseless: he is organically dead, or nearly so; he has the cold and shrunken extremities of cholera, and its cold tongue and breath. If we inquire further we shall find that the secretion of urine is not merely diminished, it is absolutely suppressed. I do not imagine that any one in this Society will accuse me of adducing a fictitious case, though perhaps some may imagine that I have grouped together the more remarkable symptoms found in several cases of this kind in order to produce a typical case. I beg to say that all the symptoms which I have here described presented themselves in a boy who was my patient in the clinical ward twenty-one years ago, and who passed no urine for five days before his death, and that I have met with several such since. In this case, I may add, there was found upon inspection occlusion of a portion of the duodenum by adhesion and a band of false membrane. The lungs and right heart were in a state of congestion; there were, in fact, besides the abdominal lesion, the anatomical conditions of a subject dying from asphyxia. When there is intestinal obstruction from disease further on or in the course of the small intestines, we generally find more or less depression of the moving power of the circulation; greater or less diminution of the secretion of urine; more or less, in fact, of the symptoms described in connection with duodenal obstructions, according as we have the disease higher or lower in the intestine, or, at all events, according to the earlier or later or more or less urgent vomiting—according, in short, as we have a greater or less obstacle to the admission of fluid into the system. When there is obstruction beyond the ileo-cæcal valve, the condition of the patient is altogether different. There may be obstinate constipation for days together without vomiting, and therefore with an abundant secretion of urine.

If now we take a glance at the course of the fluid from the intestinal canal to the right auricle, we often meet with cases of chronic disease of the liver—as, for instance, cirrhosis or fibroid degeneration—in which the portal circulation is materially interfered with. In these cases the urine is for the most part scanty; but there are generally none of the effects of retained secretions, since the general nutrition of the body is feeble and the waste of tissues slow; but what is remarkable is, that in such cases we have rarely, if ever, a tendency to diarrhœa, though we often induce it as a means of relief; but, on the other hand, the redundant fluid obstructed in the portal circulation is relieved by the escape of serum (not serosity) into the serous membrane of the abdomen and afterwards into the areolar tissue of the lower extremities, giving rise to ascites and anasarca.

Cases again sometimes present themselves, and though rare they are highly interesting and instructive, in which the ascending cava is obstructed as high sometimes as its entrance into the right auricle by the development of a new growth from its lining membrane, so that the orifice of the vena porta hepatica is nearly closed and the circulation through the liver greatly obstructed. Here then we have the greater portion of circulating fluid intercepted just before it reaches the pulmonic system, and there is an approach to the conditions of cholera as assigned to it by Dr. Johnson. What, under these circumstances, do we find to be the effects upon other parts of the system? There is, as in the instances of intestinal obstruction, a great diminution in the quantity of the urine; there is thirst, a feeble pulse, some coldness of the extremities, and other signs of a languid circulation. This obstruction, however, rarely finds a

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vent, at least spontaneously, in the form of diarrhœa; but there are ascites, hematemesis, and sometimes intestinal hemorrhage.

We find, then, that in those cases in which there is obstruction to the passage of the fluid from the portal system into the general circulation, there are some of the symptoms which we have ascribed to defect of fluid in the system or a drain of fluid from it—a feeble action of the heart and arteries, thirst, and scanty urine—some, in fact, though in a less degree, of the symptoms of cholera. These are superadded to the other symptoms due to the mode in which the obstruction is produced, or, in other words, to the manner in which the deficiency of the fluid in the system is brought about.

We now pass on to obstructions in the pulmonic system, and we arrive at a condition of things almost identical with the hypothetical 'stoppage of blood from the right to the left side of the heart,' which has been assumed as the cause of the collapse of cholera; and, indeed, upon the theory which I have advanced of the necessity for a free transit of fluid through the system, there ought to be some of the symptoms of cholera—those, in fact, which are due to diminished flow onwards into the arterial system (whether that diminution arise from abstraction or impediment), though, according to the theory that affirms this stoppage as the potential cause of the phenomena of the disease, we ought to have cholera itself. What, then, do we really meet with? With lividity from the imperfect arterialization of the blood we have often coldness of the extremities, and now and then cramps. From the diminished arterial circulation we have scanty urine, very small and sometimes almost imperceptible pulse, and after a time gorged liver and ascites. We have, in fact, those symptoms of cholera which may be explained by the conditions which these cases have in common with cholera, namely, the diminished arterial circulation and scanty urine. But we have also other symptoms—a great impulse of the heart, due to the gorged right ventricle and enlarged liver and ascites—symptoms to be explained by conditions which are present in these cases but are absent in cholera; while, on the other hand, we have not the symptoms of true cholera, watery vomiting and purging.

Cases of this sort present themselves under various forms. Thus acute and extensive bronchitis may be set up and rapidly develop itself, and we have obstruction to the capillary circulation in the lungs between, as it were, the pulmonic arteries and veins. Some of these cases are rapidly fatal, and we have before death urgent dyspnœa, lividity, clammy extremities, very small and rapid pulse, scanty urine, but not diarrhœa, still less cholera. After death, besides the condition of the bronchial membrane characteristic of bronchitis, we have the right side of the heart and pulmonic arteries gorged, and a comparatively empty condition of the pulmonic veins and left heart. Similar instances may be found in cases of acute phthisis, fatal in a few days, which sometimes presents themselves.

When again, there is disease of the mitral valve, whether obstructive or regurgitant, we have a similar state of things as regards the right heart and pulmonic arteries, but there is in addition engorgement of the pulmonic veins and left auricle, the left ventricle being comparatively empty in cases of obstruction, though moderately full where there is regurgitation. Here we have dyspnœa, thirst, very cold extremities, a feeble (often intermittent and sometimes imperceptible) pulse, and scanty urine, but we have not cholera. These cases do no doubt present many symptoms in common with cholera—those in fact which are due to diminished supply of fluid to the arterial system, not as in cholera from its abstraction, but from obstruction to its access. Affections of the aortic valves do not produce in their earlier stages any serious obstruction to the pulmonic circulation or impediment to the ingress of fluid into the system; and later their effects become almost identical with those of affections of the mitral valve.

I now proceed to consider the effects produced by derangement of those organs by which the principal part of the water is finally removed from the system, and which, when healthy, eliminate with the water the soluble excrementitious matters which it holds in solution, but which, without a due supply of that fluid, would act as poisons as certainly as would carbonic acid if there were not free access to the lungs. It is a fact which pathologists hardly seem fully to appreciate that water is as much a depurating agent as is air, and one the want of which is as certainly, though not quite so

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speedily, fatal. In several of the different forms of Bright's disease, then, we have not necessarily any obstruction to the passage of fluid into the system, neither is there in many cases any impediment to its exit from it. The quantity of water in the blood may be as great in proportion to the normal solid contents as in health; in the majority of instances it is greater, but, owing to disease of the excretory organs, the water passes away, leaving in the system the very substance which it was intended to eliminate (namely, the urea, urates, etc.); and what symptoms do these cases present in common with those which have just been mentioned, or in common with cholera! As regards the former the urine may or may not be scanty; there may or may not be dropsy, but there is almost always thirst, especially in those cases in which the deficiency in the normal solid contents of the urine is greatest, and in those cases there are commonly cramps. Now, if in nearly all the cases in which there is a suspension of the elimination of these soluble excretory matters from the system, whether that suspension arise from the obstruction to the admission of water (the solvent) into the system, from obstruction to its transmission and distribution to the eliminating organs, or from its rapid withdrawal by another and unusual source, as in cholera, or from its passing out of the system without performing its office of elimination, as in Bright's disease —if, I say, in all these instances we have thirst and cramps, and the only condition which they present in common is the defective elimination of these excretory matters, we cannot, I think, be far wrong in assuming that retained secretion or uræmic poisoning is the cause of the thirst in all these cases, and that it is a potential agent, though not the only one, in the production of cramps.

I have now traced the course of the liquid taken into the stomach to its elimination from the system, and have found that when its admission into the system is cut off at the very commencement, there are all or nearly all the symptoms of cholera, with the exception of the diarrhœa—the cramps, it is true, being of somewhat less intensity.

It is remarkable too that in the course of this inquiry we have had occasion to notice the effects of obstruction in the pulmonic circulation, whether arising in the lungs themselves or produced by disease of the heart, and we have observed that although we had some effects common also to cholera, they were precisely those which we had been led to expect would ensue from obstruction to the passage of fluid from the portal system to the general circulation, but that those choleraic symptoms which ought to have presented themselves upon the hypothesis of the origin of cholera from pulmonic obstruction were precisely those which were wanting. We see, then, that the pulmonic obstruction is not a *vera causa*, since it is not one of the existence of which we have any evidence antecedently to the other choleraic symptoms or independently of them. Neither is it capable of accounting for the phenomena of the disease, since when present as a primary affection or in the course of other diseases it does not give rise to these phenomena.

There remains one other disease to be noticed as affording powerful evidence of the effect of a drain of fluid from the system in producing the thirst, cramps, collapse, suppression of urine, imperceptible pulse, and, in short, all the symptoms of cholera—I mean the English or summer cholera. Now in most summers we have this disease occurring to a greater or less extent, and in greater or less degrees of intensity. In some cases it is a matter of very little moment; in others the diarrhœa goes on to an extent that is exhausting to the patient; and in some few cases we meet with the thirst, suppression of urine, cramps, lividity, and collapse, and, in short, the condition of the patient so closely resembles that of one passing into the collapse of true Asiatic cholera that it is impossible for any one by mere examination of the patient to distinguish it, the only guide being the character of the prevailing epidemic. I have more than once seen cases of this kind, of which I have said, if Asiatic cholera were now prevalent I should say that there was hardly a chance of the recovery of this patient, but as it is not, I hope, and even expect, that he will do well; and such has been the case in every instance which I have seen, with the exception of the aged and of diseased persons—the collapse not having been so profound as in the epidemic form of the disease, and the rice-water dejections not quite so copious.

It may, indeed, be urged on the one hand that these cases are not English cholera at all, but sporadic cases of true cholera, and

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on the other that if they are rarely fatal, though they present nearly the same drain of fluid from the system, there must be some other cause in operation in the true cholera to produce a more generally fatal result.

Now to the first of these objections I would reply that these cases of English (or non-epidemic) cholera had been known to experienced practitioners long before the appearance of the Asiatic disease in this country, certainly as far back as the time of Sydenham. A similar disease, too, has long been known in other parts of Europe, and was described by Celsus.

In reply to the second objection, although I am by no means certain that the drain of fluid in these cases is as perfect as in the true cholera, yet it is not here meant to assert that the sickness and diarrhœa constitute the whole of cholera, but merely that the drain of fluid is the cause of its most prominent or dangerous symptoms. There are no doubt other morbific agencies in operation, of which I shall presently take occasion to speak.

Having now shown that when in the course of other diseases we have a great defect in the quantity of fluid in the circulation, whether that deficiency arises from obstruction to the entrance of the fluid or from its very rapid abstraction, we have symptoms more or less resembling those of cholera, according to the completeness of the obstruction or the amount of the abstraction, I think that we are justified in concluding that in cholera, where we have the same result and the same agency in operation, we are bound to accept that agency as the cause in this case as in the former.

I now proceed to notice some of the objections which have been made to the doctrine that the sickness and diarrhœa, or in other words the drain of fluid, is a potential agent in the production of the most characteristic symptoms of cholera. Now, first of all it has been objected that 'a copious hemorrhage, a profuse and long-continued leucorrhœa, prolonged lactation, and excessive purging, whether the effect of disease or medicine,' do not produce effects similar to those ascribed to the choleraic drain. It is difficult to suppress admiration of the ingenuity which should have colligated conditions so different as a drain of blood or albuminous fluid and a drain of serosity. I have already commented upon the inconsistency of comparing the abstraction of a portion of the whole blood, which for a time diminishes the volume of the circulation without interfering with the relative proportion of its ingredients, with the withdrawal of a large proportion of one of those ingredients; which, in addition to diminishing the volume of the circulation, absolutely destroys that relative proportion which is essential to its integrity and to its power of supporting vital action. But we may even go further than this, and compare the physiological effects of hemorrhage with those of the abstraction of serosity only. When a large quantity of blood escapes, whether from a wound or from morbid hemorrhage, the first effect, no doubt, is a tendency to syncope, with some coldness and clamminess of the extremities. If the hemorrhage is not fatal, a reaction speedily ensues; the heart's action becomes excited, the pulse sharp and very compressible, the countenance and lips pale; there is no difficulty in the maintenance of the circulation, although its volume is diminished, and the functions of different organs are liable to be impaired or suspended from a defective supply. One of the earliest symptoms after reaction is thirst, and generally the patient drinks freely. The fluid thus taken is rapidly absorbed, and the volume of the circulation is restored, or nearly so, but not its constitution, nor the proportion of its ingredients, the blood which has been abstracted being replaced by water only, and so it happens, as is well known, that the state which used to be generally known by the term anæmia, but which is now more correctly termed spanæmia. is brought about. This spanæmia, or poorness of the blood, consists in a defect of solid contents with an excess of water, and being the very opposite of that which is induced by the drain of cholera or diarrhœa, in which the solid contents are in excess owing to the abstraction of the fluid, we need not stop to inquire why the symptoms are so different in the one case and in the other; their very difference presents us with as strong evidence as contrast can afford us.

The same remarks apply to leucorrhœa and to other albuminous discharges, as well as to over-lactation, in which, as is well known, a spanæmic condition of the blood is induced. In this state of spanæmia there is not only a deficiency of red corpuscles, but also of albumen, so that comparatively

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to them the water is greatly in excess, or, in other words, is the very opposite condition to that induced by cholera. There remains diarrhœa, whether from disease or medicine: this is indeed a most legitimate subject of comparison, and if I am compelled to differ on matters of fact with those who have advanced an opposite theory to my own, I beg to say that I do this without arrogating to myself greater candour or more accurate observations than those from whom I differ, knowing, as I well do, the different aspects in which the same facts present themselves to different minds.

As regards diarrhœa pure and simple, the most perfect form in which it presents itself to our notice is that of the English cholera. Now this disease in its very severest form is not a common one; still I believe that few who have enjoyed great opportunities of witnessing disease can have missed seeing one or more such cases, and in them there can be little doubt that more or less collapse, cramps, and suppression of urine are the consequences of the diarrhœa. I was within the last few days talking to an old practitioner of great experience whom I attended two years ago (in the summer of 1864) for English cholera, and he observed that in his case the effect of the purging could not be questioned, for that after a very copious watery evacuation he felt suddenly prostrate and 'drawn into a ball' with cramps. As regards sudden attacks of diarrhœa which now and then occur in disease of the heart, lungs, liver, or kidneys, it is very true that they rarely, if ever, go to the extent of producing cramps and collapse—in the first place, because they generally are induced by obstructed circulation or excess of serous fluid, and being the result of a conservative effort on the part of Nature, they rarely, if ever, go on to such an extent as to become destructive; and I think, if it were admissible to introduce an argument for final causes into a question of this kind, that the very fact of choleraic diarrhœa being often fatal is an argument against its beginning in a conservative effort. Indeed, to suppose that the diarrhœa of cholera originates in a conservative effort of Nature is to compare Nature to an unskilful physician administering an excessive or uncalled-for dose of elaterium or other hydragogue cathartic. As regards excessive diarrhœa from medicine, I cannot speak much from my own experience. We have all of us, no doubt, seen cases in which an aperient has acted beyond our expectations and beyond our wishes, and in some of these cases the extremities have become cold, the skin clammy, and the pulse feeble; but it is, and ought to be, rare for cases to occur with any great severity. It does, indeed, sometimes happen that there is a peculiar susceptibility arising from the constitution of the individual, or from some tendency to disease prevailing at the time—from what, in short, Sydenham has termed the 'epidemic temperament'—under which circumstances an aperient may act violently, producing exhaustion, very feeble pulse, coldness of the extremities, in fact, the milder symptoms of cholera.

There remains one other fact in support of the view which has been taken of the consequences of the withdrawal of fluid from the circulation, and it is the effect which is known to have resulted from injecting it into the veins after the system has been emptied by such a drain. Now, it is well known that in some instances the circulation has been restored and the patient has recovered by transfusion. In other cases the pulse has returned, and the patient has expressed himself as feeling quite restored, but vomiting or diarrhœa, more frequently the former, have again drained off the fluid, and the collapse has recurred. The late Dr. Babington mentioned to me the case of a gentleman in whom transfusion was employed in the collapse of cholera. He rallied and sat up, and seized the Doctor's hand and said: 'Dr. Babington, you have restored my life;' but in a few minutes diarrhœa came on, and he again sank. What is remarkable as showing the effect of the injection is that in some of these cases bright fluid venous blood has flowed from the vein after the operation.

The facts may now thus be summed up. Obstruction to the admission of fluid into the circulation causes collapse, with tendency to asphyxia, suppression of urine, and, as a consequence of this suppression, some of the symptoms of uræmic poisoning. Obstruction further on in the course of the circulation, as in the liver, causes scanty urine, and in extreme cases there may be some of the symptoms of uræmic poisoning. Still further on, there will be lividity and scanty urine, with, in severe cases, the pulse of impending asphyxia, the circulation relieving itself by effusion of serum into the perito-

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neum, and in some rare instances partially by diarrhœa. But if the fluid pass freely through the system to the kidneys, and find a free exit from the system, it may nevertheless, if those organs are diseased, pass out, leaving behind it the excretory matter which the kidneys should eliminate, and the symptoms of uræmic poisoning are the result. If, however, there be a rapid drain of fluid from the system, as in the instances of diarrhœa which have been cited, we have not only uræmic poisoning, but collapse and other consequences of the defect of fluid in the circulation—the effects being the same, whether the defect arise from obstruction to the access of fluid, as in disease of the duodenum, or from excessive and severe diarrhœa."

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On the Physiological Formula of Cholera and of the Treatment.—[Dr. B. W. RICHARDSON, of London, one of the most active and sagacious workers in the profession, has published (*Med. Times and Gazette*, Aug. 4, 1866), the following formula of the disease cholera, in which he places each point to be discussed in the character of a theorem. The remarkable coincidence between his views of the pathology of cholera and those we have endeavoured to establish in the previous number of this journal, are worthy of attention.]

"*Theorem I.—The symptoms of cholera are due to the separation of water from the albumen of the blood and of the tissues.*—This theorem, which the symptoms themselves suggest as true, and which has been accepted by considerable numbers of medical men, is demonstrated by the following synthesis:—

"If into a serous cavity of an inferior animal a given quantity of fluid of a specific gravity 100 degrees above that of the blood of the animal be slowly injected, there is an immediate transference of watery fluid from the blood to the injected fluid, the osmotic current being specially rapid towards the denser liquid that has been injected. The serous cavity thus fills rapidly with fluid, and if the fluid exuded be drawn off the drain will be sufficient to cause death by mere loss of water. The symptoms consequent on this proceeding are identical with those of cholera; there is coldness of surface, coldness of breath, convulsive movement, shrinking of tissue, and general collapse. After death the morbid conditions found are the same as in cholera—viz: viscidity of blood, dryness of tissue, and shrunken condition of the vascular organs.

"Modifications of detail, according to the animal, are essential for this experiment; but all animals are susceptible of the symptoms. Common sugar, chloride of ammonium, and chloride of sodium are the three crystalloids most ready for the operator. For an animal weighing 1 lb., from one to two ounces of a solution of one of these salts, having a specific gravity of 1160, is sufficient. Symptoms precisely analogous to those of the collapse of cholera may be induced in frogs by injecting a fluidrachm of a crystalloid solution into the dorsal sac of the animal, or even by immersing the animal in a solution containing saline matter of a proper specific gravity.

"*Theorem II.—The separation of water in the blood in cholera is due either to a local osmotic change in the alimentary canal, or to a general osmotic change in the blood itself.*—By excluding all other possible causes of the separation, there remain none other but the two causes named above. The evidence in favour of each of these is very evenly balanced. The early symptoms of the disorder, and the fact that there is an unmistakable disposition towards exudation from the alimentary surface rather than from any other surface, strongly support the view that the cause of the disease—in the early stages at all events—is exclusively local in its action. On the other side, we find distinctive evidence of changes in the condition of the albumen of choleraic blood. This blood is deficient in hydrating power—in the capacity, that is to say, for taking up water—and hence it may be argued that the primary change is in the blood; that the water separates, and that, so separated, being deficient in plastic quality, it finds in the enormous vascular surface of the alimentary canal its readiest point of exit from the body.

"Physiological experiment again favours this view. If into the aorta of an animal just dead ordinary water be abundantly injected, the alimentary system is invariably the part that is first distended; nor is there ever anasarca of any tissue nor serous exudation until the alimentary system is saturated. If, therefore, the watery matter of the blood during life were separated so that the homogeneousnees of the blood were

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destroyed, the first point through which the watery matter would exude under the influence of the *vis a tergo* would be the surface of the alimentary canal; and further, as this is an open surface, from which the exuded fluid can freely escape, the exudation would naturally continue through that surface until the *vis a tergo* were exhausted.

"The view most consonant with all the facts is that the choleraic poison finds its way primarily into the alimentary canal; that in the albuminous secretions of the canal it sets up catalytic change leading to its own further production; that it is absorbed at first from this canal, and is carried, as alimentary substances are carried, into the blood; that in the blood it continues to exert its specific action on albuminous matter, leading to separation of water and after exudation of water in the manner above described. The disease thus becomes general from a local point.

"On the view as here stated, and on no other, we have an explanation of the variety of character of the malady in regard to duration of symptoms and degree of exudation. In cases where the poison, as first introduced, is small in quantity or comparatively inactive, the infection of the albuminous secretion of the mucous surface and the absorption into the blood would be prolonged, the separation of water would be gradual, and the exudation, an early symptom, would be progressive and determinately marked. In cases, again, where the choleraic poison produces rapid change of albuminous secretion, with quick absorption into the blood, the homogeneousness of the blood would be destroyed with such rapidity as to leave no time for exudation prior to death.

"*Theorem III.—The collapse of cholera is due not only to the elimination of water from the system, but to the removal by the water of the heat of fluidity or latent heat of the tissues.*—This argument, which has an important bearing on the question of treatment of cholera, is based on a series of new researches I have recently conducted, and to which, in future papers on the heat of fluidity of the animal body, I shall invite the attention of the readers of this journal. *In limine*, I may say here that each part of the body that has the property of being transferred from the solid to the liquid, and conversely from the liquid to the solid condition, possesses a given capacity for latent heat, or heat of fluidity, and that the process by which the body is heated from the combustion going on in the lungs is mainly carried on by the agency of heat rendered latent. Thus fatty matter taken in the liquid form into the stomach, and conveyed unconsumed into the extreme parts of the circulation, in being deposited there yields up an equivalent of not less than 162° of heat. Thus water, which, as the grand menstruum of the solids, must be protected from losing its heat of fluidity, is so protected by the saline substances and the albumen that it cannot be solidified even locally at any temperature above 16° Fahrenheit. Thus, and lastly, for the present occasion, by their capacity for taking up the heat of fluidity and for yielding that heat up again, the blood corpuscles become the great carriers of that caloric of the body by which all the soft parts hold and maintain their mobility and physical activity.

"But in order that the blood corpuscles should be subjected to the influence of living combustion in the lungs, they must be brought over the pulmonic circuit in proper mechanical suspension—in other words, in a state of proper distribution; and this obtains so long as they are borne in the fibrin of the liquor sanguinis, the fibrin itself being diffused equally through the homogeneous fluid of water, saline matter, and albumen, which we call serum. The moment, therefore, there is separation of water from albumen, the moment the balance of water, albumen, fibrin, and blood corpuscles is disturbed by the separation and abstraction of water, that moment the blood corpuscles cease to be brought correctly to the lungs to fix caloric. As a result, there is a reduction in the amount of the caloric of fluidity that should be conveyed to the tissues, and then every ounce of water, beyond what is natural, that is conveyed from the organism carries away so much caloric at the expense of so much tissue. In fact, if it were not for the capacity of the water to abstract caloric from the tissues so as to maintain its own fluidity, the water of the tissues of the cholera patient would fall so rapidly that death would almost be instantaneous on the destruction of the homogeneousness of the blood.

"PHYSIOLOGICAL TREATMENT OF CHOLERA.—The inadequacy of all the forms of empirical treatment of cholera is so manifest

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that there is no need for apology in offering what seems to be the most reasonable line of treatment on a physiological basis. I only hope the simplicity of the suggestions which physiology at present offers may not be prejudicial to its teachings.

"According to our lights, on the basis stated, there are three lines of practice open in cholera:—

"1. To arrest elimination.

"2. To supply the caloric of fluidity.

"3. To restore the homogeneousness of the blood.

"If we could see a certain and simple way of restoring the homogeneousness of blood we should have in our hands an immediate antidote to cholera, and the third suggestion would become the first and only suggestion. Unfortunately, we have yet, by continued experiment, to learn this antidote, and we must, as a consequence, reserve the trial of it for the extreme stages of the disease—a last resource.

"To fulfil the first of these indications—viz: to arrest exudative discharge—there are only two sets of remedies known: opium, which acts, when it can be absorbed, on the involuntary nervous system, producing contraction of capillary vessels of the alimentary surface (in the same manner as it produces contraction of the pupil); and direct local astringents, which act on the secretions of the canal, viz: creasote, tannin, the mineral acids, and some metallic salts. It must be clear that none of these are curative remedies in the extreme sense of the term—that is to say, they are not direct remedies or antidotes for the primary derangement. But by their astringent action they prevent the water of the body from being conveyed away, and in this sense they conserve the animal caloric represented in the water, and which is absolutely lost when the water actually flows from the organism. Remedies of the class named are, consequently, of the utmost service, especially in the earlier stages of the malady. From a good experience of the disease in the two last epidemics, I infer that the combination of opium with one or other of the local astringents named is the best practice, and I should place the following combinations in the order in which they are most effective: Opium and creasote; opium and a mineral acid; especially sulphuric or nitrous acid; opium and tannin.

"To fulfil the second indication to sustain the caloric, there are two methods open. One of these is to prevent, as far as is possible, the radiation of sensible heat from the body. The cholera patient should be treated in the same manner as a man who is exposed to extreme coldness of the air. His animal fire low, and the conveyance of caloric in his system interfered with, the choleraic sufferer is the parallel of an Esquimaux exposed without shelter to polar air and deficiency of food. To expose a man reduced in temperature to any process that shall remove from him caloric, is contrary to all reason; to give him the advantage of the hot bath and to maintain his temperature by efficient clothing is the most natural, as it is the most obviously useful procedure. One has only to see a few times how the physical forces of life improve when the patient, collapsed and cold, temporarily rallies in the hot bath, to be assured of the soundness of the practice. This, however, is not again a curative process in the direct sense, but conservative only; for the body, by its external surface, cannot absorb caloric unless there be actual destruction of its surface.

"It has been suggested to attempt the introduction of heat by subjecting the patient to heated air for inhalation. In this way, in health, there is no doubt a large proportion of heat can be introduced; but in cholera, where the homogeneousness of the blood is lost, the conditions for the absorption of heat are absent, and while a low temperature of air would be mischievous, a very high temperature would, I fear, do no more than tend to cause dryness of surface from further loss of water by the pulmonic textures.

"It is still a desideratum to supply animal caloric, and this, I would point out, may be accomplished to a marked degree by attention to the fluids which are given as drinks to choleraic patients. I am bound to denounce as utter folly, and almost worse, the practice of charging such patients with cold and iced drinks. Presuming that a choleraic sufferer is just sustaining his natural caloric at 96° Fahr., he does this by the gradual consolidation of his tissues and the giving up from them of their heat of fluidity. At this stage let there be given to him a pint of fluid at 40° Fahr., and straightway from an equal weight of his body, there is extracted by equalization

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28° Fahr. of caloric, which, as he is placed, will never again be applied for the production of force.

"This plan of cooling down a cooling body is, according to my estimate, adding evil upon evil. To treat the disease rationally, the reverse principle ought to be invariably carried out; that is to say, foods and drinks should be made the means for introducing heat abundantly. It seemed to me, on this reasoning, to be an important point to produce a substance which shall, as a liquid food, supply tissue material and with that heat.

"Taking advantage of the fact that crystallizable fat, when mixed with albumen, can be dissolved by the heat of water, which heat it fixes in becoming soluble, and gives up again on solidifying—I set to work to produce a food having the properties named. After numerous attempts the following proves most successful:—

"Take of pure stearine two ounces by weight; of best fresh butter, two ounces; of whites and yelks of eggs, well beaten up, eight ounces; of carbonate of soda, twenty grains; of chloride of sodium (common salt), eighty grains; of water, two ounces.

"As to mode of preparation for food. First dissolve, with heat, the stearine and the butter until they are both melted: then add the carbonate of soda and common salt to the eggs, and when these salts are dissolved in the egg stuff, mix it with the oily fluid, taking care that the latter is not of a temperature above 140° Fahr.; let the whole cool to a soft consistency, and finally on a slab or a board, rub in the water with a broad spatula. The compound may now be placed in a wide-mouthed jar; in a little time it settles into a moderately hard mass, and is ready for use.

"In administering this compound to the sick, take one ounce, or a tablespoonful; place it in a large breakfast cup, and rub it up equally with a teaspoonful of glycerine, or a teaspoonful of ordinary water, or a teaspoonful of fine sugar and water, or a teaspoonful of honey and water. Next pour upon the mass three ounces of water, *actually boiling*, and incorporate well. The solid substance will now briskly and evenly dissolve, and will be at once so cool that it can be drunken. The thermometer plunged in it will only register from 130° to 135° Fahr. In this process the heat of the boiling water has been mainly (allowance must be made for conduction and radiation) expended in rendering fluid the solid matter. We may estimate safely, that in addition to the sensible heat, 44° have been rendered latent for every ounce of fluid at least, which heat will be yielded up to the tissues if the fluid make its way into them.

"Contrasted with the supply of a pint (pound) of ordinary water at 40°, a pint of this fluid would effect a difference equal to 204° of added heat to a pound weight of the substance of the organism.

"I may add that the fluid food prepared as proposed above is very agreeable to the taste, and that it may be made the vehicle for conveying either solution of opium, creasote, or dilute sulphuric acid, in proper doses. I found after taking nine ounces of the fluid no sensation of nausea or uneasiness, but in the course of half an hour, the surface of my body became very hot, and the heat increasing remained unpleasantly high for several hours. For patients who would object to drink the fluid while heated, it might be allowed to cool ten or even twenty degrees. A glass of port wine is easily miscible with four ounces of the fluid.

"The last indication of treatment is to endeavour to restore the homogeneousness of the blood, and to bring the red corpuscles into proper circulatory action. This can only be effected by injection direct into the veins, and we know from experience that in the last stages of collapse the injection of certain fluids into the veins has been attended by remarkable results: the collapse has, for the time, ceased, and, in some instances, the appearances of recovery have been so decided that the most sanguine but delusive hopes have been raised. In a case which I attended with the late Mr. Ancell, of Norfolk-terrace, during the epidemic of 1853–4, we injected into the veins of a collapsed woman two pints of warm saline water four successive times, and each time with the effect of restoring her to consciousness and power of movement, thus evidently extending her life over a space of thirty hours.

"Facts such as these have been recorded by many other authors, and the effect of the experience has been to render the idea of 'transfusion,' as it is called, very popular with members of the profession, who, seeing its promise, have hoped for it more

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than they have positively realized. The great question to be settled is: What fluid shall be injected? Blood has been injected and has failed; milk has been injected, and has usually failed; saline solutions have been injected, and have, as a general rule, failed; simple warm water has been injected, and has, in its turn, failed. In short, none of these solutions have been potent in saving life, but one and all of them have, for a time, averted death.

"The reason why certain immediate but not lasting benefits have followed these various injections is, that they have always been injected after being heated up to blood heat; the caloric thus supplied has been the underlying basis of the transient success. Any experimentalist can prove this by injecting the solutions into the systems of animals recently killed; he will find himself able to reproduce muscular contraction with the solutions named, equally well with each, if they are heated to the same degree, *i. e.*, from 106° to 115° Fahr.; he will find them all equally negative, if they are not thus raised in temperature. Hence we must consider the question of transfusion in a new light, or success from it will continue to be only temporary.

"In respect to transfusion in the collapse of cholera, there is as little difficulty in accounting for the ultimate failure of the proceeding, as for the temporary success. The success depends on the infusion of caloric, the failure on the inability of the fluids injected to sustain the calorific activity.

"*Blood* is not the proper fluid, however neatly it may be defibrinated, because, in the system of the choleraic patient, there is no deficiency of corpuscles nor of hæmatin, neither of which have escaped from the body; in addition, no sufficient quantity of human blood could be obtained for the purposes of injection; the mere injection of a pint or a quart of fluid is a bagatelle: what is wanted to inject is many quarts of fluid; what is wanted to be done is, to *feed* by the veins, not to fill them once and no more, with a limited change of material.

"*Milk* is indifferent because it does not combine readily with the blood in the tissues, and because it coagulates and speedily decomposes.

"*Saline solutions* combine with the blood remaining in the tissues, but they do not sustain, and they cause great shrinking of the corpuscles.

"*Water* simply conveys sensible caloric, it does not sustain; it dilutes the residual blood too freely, and ultimately, as it cools, it removes caloric from the structures with which it comes in contact.

"What then do we want in the way of a fluid? I have thought that the fluid should contain digested and easily hydrating albumen; fatty substance that would solidify at a low temperature a small quantity of saline matter, and a substance that will easily pick up the blood corpuscles, when they have been partially deprived of fluid, and restore them to their natural form and character. I have set myself to work upon drying blood to test for such a fluid, and at last have arrived at the following formula, which, on blood out of the body at all events, answers the purpose well. I give the proportions for a pint of fluid.

"Of white of egg take 4 ounces by weight; of common salt, 1 drachm; of carbonate of soda, 1 scruple; of clarified animal fat, 1 ounce; of pure glycerine, 2 ounces; of water, sufficient to make 1 pint. In preparing dissolve the common salt and carbonate of soda in the water, and having well whipped the albumen, add that also to the water. Place the mixture on a water bath, and raise the temperature to 135°; keep the mixture steadily stirred and digest at this temperature for one hour. This constitutes an artificial serum. the albumen of which hydrates freely. Having taken the artificial serum off the bath, place the fat and the glycerine together in a crucible, and melt the fat in the glycerine. When the process of solution of fat is complete, pour the solution into the artificial serum at or about 120°, and stir in carefully; set aside that the fluid may cool to 80° Fahr, at which point all the fat that is insoluble at 80° will float on the surface, take this off and filter through coarse paper or closely woven cloth.

"The fluid thus obtained is of pinkish colour, of alkaline reaction, of saline sweetish taste, and of specific gravity 1038. It picks up semi-fluid blood with instant readiness, and diffuses it most equally. Heated, it takes up one-third more caloric than does water in the same time, and in cooling it restores nearly one-third more.

"From my experience with mere saline injections I infer that the fluid might be injected, at a temperature of 106°, into the veins of a collapsed adult, in the proportion of two pints at one time.

"I have one word to say in reference to the

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mode of injecting the veins. The greatest mischief has arisen in transfusion, from errors in the operation. The operator should ever remember that in this process he is feeding, not forcing; he should keep in mind how gradually nature feeds the veins by the thoracic duct, and he should imitate her; there is no necessity for force, none for hurry.

"Above all things, in feeding by the veins the syringe should be thrown aside; it is a dangerous, bad instrument for the purpose. To replace it I have constructed a simple instrument, which I have used with great success."

This instrument could not be well understood without a figure, and this we could not have prepared in time for this number of the Journal.

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Origin, Cause, and Prevention of Cholera.—At a late meeting of the Epidemiological Society, Dr. Richardson expressed the following views:—

"The positions he is prepared to maintain in respect to the cause of cholera and its propagation may be summed up as follows:—

"The cause of cholera lies outside the organism.

"The cause, when once in operation, can be carried from place to place.

"It can be carried in clothing or on any solid substance. As dried scale, it may possibly be wafted a few feet by the air; but the great medium for its diffusion is water in fluid or vapour.

"The poison thus set in motion increases in the bodies of infected persons, but only in the alimentary canal.

"The evidence is all to the effect that the poison escapes from the bodies of the infected only from the alimentary system.

"The evidence points directly to the fact that in all cases of infection the poison is always, and only, received by the alimentary canal.

"After the close of the Crimean campaign the council of the Epidemiological Society issued a series of questions to the officers of the Black Sea fleet in relation to the epidemic of cholera that prevailed in the fleet during the occupation.

"At the time of the outbreak of the cholera the population of the fleet numbered 12,572 men, these men all living under the same conditions, except in one particular, yielded 710 cases of cholera, and 397 deaths. Of these cases in the gross 91.26 per cent. of the men attacked were supplied with water derived from springs at Baltschick, a spot on which French troops had been quartered while suffering from cholera; the troops had washed their clothing at these springs, and the ground for a great distance around was saturated with their excreta. The remaining 9.74 per cent. of the infected were supplied with water partly from Baltschick. Three other crews of vessels suffered from severe diarrhœa, and of these two positively took in water from Baltschick, and the third probably so. In one vessel which used distilled water, water condensed from the steam of the engines, cholera broke out, a circumstance which might at first sight appear to go against the water dissemination theory; but on examination it turns out that this water was passed to the tank through a foul hose pipe, by which it was made impure. In all the other ships supplied with distilled water not a case occurred. The contrast is most striking; an experiment, devised for the direct determination of the truth, could not be more demonstrative.

"The evidence is not less conclusive when we pass to the facts which bear on the progress of the disease amongst the officers and men of infected vessels. I find that the officers in such ships were attacked in the proportion of 1 in 177, the men in the proportion of 1 in 16 29.

"Reading the narrative as it stands, I see no way in which to account for the comparative exemption of officers, except the very obvious one that the men, as a body, partook most freely of the infected water with which the ships were supplied without disinfecting it by heat. The officer took his wine, tea, or coffee, the sailor his grog. That the disease did not become distributed amongst the crews by mere personal contact with the infected is proved by the fact that in one ship several infected persons were removed, and that there was not a case of communicated disease amongst those who received them.

"Incidents not a few and of the most striking character stand out to attest the mode of propagation of cholera, and to prove that by water supply the disorder was most commonly reproduced. In Constantinople one of these signal evidences

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was made manifest. Mr. Blogg, who was present during the worst of the epidemic, has been good enough to furnish me with a fact that came under his own direct observation. It was this: The wearing apparel, the bedclothes, and the mattresses of the sick were washed at one of the fountains of the city in the neighbourhood of Tavatola. The waste pipe of the fountain being broken, this foul water became mixed with the drinking water of Tavatola. In one day after this event sixty persons in the small district supplied from this foul water were stricken with the malady

"In Paris, if all the facts had been published, similar truths were laid open; and one enterprising and eminent physician—Dr. Vacher—was so clear in his views on this subject that he wrote to the Administration, begging to have water from the public reservoirs that he might determine the organic impurity. The authorities, knowing necessarily what the disclosure would be—well aware, in fact, that the water of Paris was poisoned with organic matter derived from sewage—refused, in a tone of the most peremptory kind, this simple request.

"Snow did not sufficiently recognize that the vapour of water was an active means of conveying the choleraic poison. This truth, however, has been abundantly proved since his death. My friend Mr. Watkins, of Towcester, has shown, in a paper marked by singular acuteness of observation, that in the last epidemic which occurred in his district the persons most constantly and fatally attacked were the women who washed the clothes of the sick. This circumstance, which has been largely confirmed by other observers, is almost a necessary occurrence. Unless every portion of the garments washed were actually exposed to 212° Fahr. instantaneously, the organic poison would (at lower temperatures) begin to pass off with the vapour, and those exposed to the vapour could only escape, I had almost said, by accident.

"Snow, again, did not recognize the escape of the poison from the infected body directly in the form of water vapour. This is a point of the greatest importance, because it determines the dissemination of the poison to a considerable degree. Thus when the temperature of the air is low, the fluid excreta condense on the body or on the clothing, and the poison is confined and limited in its effect; but when the temperature is raised, the poison disseminates readily in the vapour of water from the fluid exhalations. This is, I believe, without any further mystery, the reason why cholera always spreads most easily when the temperature is moderately high.

"And for the same reason cholera spreads most easily in crowded rooms. In these rooms the temperature is artificially raised, and hot fluid foods, prepared often in the rooms, and always introduced into them, surcharge the air with moisture and heat. In such an atmosphere the poison of cholera in vapour of water finds an equable and easy surface for distribution, vapours acting virtually as vacua the one to the other.

"Once more, in modification of Snow's view respecting the propagation of cholera, I think that larger experience, from the time he moved amongst us, has shown that the dried choleraic matter deposited in infected clothing may be carried further and more readily than he supposed.

"Lastly, we may perhaps with some fairness believe that he urged rather too strongly the idea that the choleraic poison is often conveyed on the hands of attendants, or on utensils that have received choleraic excreta.

"It will be well remembered in this place that our distinguished colleague held to no point so tenaciously as the non-spontaneous origin of what he called the 'cholera cell.' This was a perfectly natural position for him to take, because in his time the germ or cell theory of disease was predominant, and because no suspicion even had been offered that organic poisons, or rather poisons derived from organic animal substances, could take any except the cell form. This being the prevailing thought, the question of the origin of the assumed cholera cell merged into the question of the spontaneous generation of organic cells altogether; and as the universal evidence was opposed to spontaneity, Snow, with the rest of the thoughtful of his compeers, held that the cholera cell always demanded for its reproduction a pre-existing cell.

"In this particular I believe him to have been incorrect, not from opposition to the truth, but from his wanting possession of those advances in physical medicine that have been made since he died.

"An observation made originally by

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myself last year on the nature of the poisonous product of pyæmia throws a new and simple light on this question of the origin of organic animal poisons. In experimenting with the albuminous exudative matter derived from the diseased open surface of a patient suffering from pyæmia, I found that the poisonous matter presented the characters of an alkaloid. I learned that it was derived from the decomposition of albuminoid substance; I marked it as an 'animal alkaloid,' I named it 'septine,' and I showed that by its mere presence on a secreting surface it transformed albuminous secretion into matter like unto itself.

"These researches on the existence of an alkaloid occurring in the body during disease have been this year singularly confirmed physiologically by Dr. Bence Jones's discovery of an alkaloid natural to the tissues which is also derived from albumen, and which he has named quinoidine.

"With the facts before us that from albumen organic alkaloidal poisons can be formed by mere physical change of elements, the hypothesis of the necessity of cell growth for the production of organic animal poison falls to the ground. We need not now enter on the question of spontaneous generation at all; the formation of the poison, although from organic substance, has nothing to do with the origin of life; the poison is a purely chemical change of organic substance; a resolution rather than a construction; a movement from the active or vital towards the inert or dead condition of matter.

"In respect to cholera, the view that the poisonous matter is in the excreta in the form, not of an organic cell, but of an organic animal alkaloid, makes what was before difficult perfectly simple. As the exuded or excreted matter from a wounded surface can, and does—under certain conditions of oxidation which we have yet, by a few simple experiments, to learn—produce pyæmic poison, so the excreted matter from the alimentary canal is equally capable, under peculiar conditions of oxidation, of producing an alkaloidal organic poison, which, soluble in water, but admitting of deposit on desiccation, passes easily from one person to another under the agency of those physical states which we have seen as peculiar to the development and progress of the epidemic."—*Med. Times and Gaz.*, July 28, 1866.

Report of the Cholera Conference at Constantinople.—[The editors of the *Boston Med. and Surg. Journal* have been fortunate enough to obtain an early copy of this report, which makes a pamphlet of 83 pages, and in their No. for Aug. 9th they have given an abstract of it, which we transfer to our pages, cheerfully acknowledging our obligations to them. This important document exhibits the results of the mature deliberations of the conference, which was nearly two months in session.

The Commission was divided into six sections, to each of which questions were distributed for consideration; and the answers then submitted for adoption by the whole Commission.]

First Group of Questions—the Origin and Genesis of Cholera; the Endemic and Epidemic Prevalence of this Disease in India.—I. Whence did the cholera, called Asiatic, originally come? And in what countries does it exist in our day in an endemic form?

The Commission with one voice is able to answer without hesitation that the Asiatic cholera, which at different times has run over the whole world, has its origin in India, where it had its birth, and where it exists permanently as an endemic.

Adopted unanimously.

II. Out of India, does the Asiatic cholera exist in our day in any part of the world in an endemic form?

The Commission considers as demonstrated that the Asiatic cholera, wherever it appears, is never spontaneously developed and has never been observed as an endemic (care must be taken to distinguish secondary foci, more or less tenacious in their character) in any of the countries which have been enumerated (Europe, &c.), and that it has always come from abroad. As for the countries in the neighbourhood of India, while admitting it as probable that the cholera does not exist there as an endemic, the Commission does not feel itself authorized to come to any formal conclusion on the subject.

Adopted by all the members of the Commission, except MM. Polak, Sawas and Van Geuns.

III. Is there any reason to fear that the cholera may acclimate itself in our countries?

The Commission, without rejecting the

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possibility of the fact, regards it as problematic.

Adopted unanimously.

IV. Is there in the Hedjaz an original focus of cholera, permanent or periodic?

The Commission is of opinion that Asiatic cholera does not appear to have had in the Hedjaz its original focus, but it appears to have always been introduced there from abroad up to the present time.

Adopted unanimously, except by M. Goodeve.

V. Are there in India certain localities which have the exclusive privilege of generating cholera, or which are more particularly favourable to its development? In other words, is cholera endemic in all parts of India, or only in certain regions which it is possible to circumscribe?

At this time the Commission can only answer that there are in India certain localities, comprised principally in the valley of the Ganges, where cholera is endemic, without being able to point out all of them, or to affirm that they have the exclusive privilege of giving birth to this disease.

Adopted unanimously.

VI. Do we know the causes by the concurrence of which cholera originates spontaneously in India, as well as the circumstances which make it take on an epidemic character?

The Commission feels obliged to limit itself to answering that we know not the special conditions under the influence of which the cholera breaks out in India and reigns there in certain localities as an endemic.

Adopted unanimously.

VII. What are the circumstances which concur in the development and the propagation of epidemics of cholera in India?

The Commission believes itself authorized in answering, that pilgrimages are in India the most powerful of all the causes which tend to develop and propagate cholera epidemics.

Adopted unanimously.

SECOND GROUP OF QUESTIONS—THE TRANSMISSIBILITY AND PROPAGATION OF CHOLERA.—VIII. Is the transmissibility of cholera proved to-day by facts which do not admit of any other interpretation?

Do not all these facts demonstrate conclusively that cholera is propagated by man, and with a rapidity in proportion to the activity and rapidity of his own movements? The Commission does not hesitate to answer in the affirmative.

Adopted unanimously.

The Commission, with unanimity, concludes that the transmissibility of Asiatic cholera is an incontestable verity, proved by facts which do not admit of any other interpretation.

Adopted unanimously.

IX. Are there conclusive facts which force us to admit that cholera can propagate itself at a distance by certain atmospheric conditions, by winds, or by any other change or modification of the surrounding medium?

The Commission answers that no fact has proved, up to the present time, that cholera can propagate itself at a distance by the atmosphere alone, whatever may be its condition; and that besides it is a law, without exception, that never has an epidemic of cholera extended from one point to another in a shorter time than was necessary for man to carry it.

Adopted unanimously.

X. How is the importation of cholera effected, and what are the agents of its transmission?

It may be said, without more specific statement for the moment, that if all modes of conveyance from countries affected with cholera are not likely to propagate the disease, it is none the less prudent, at present, to consider all such means of conveyance as suspected. A more detailed examination will settle the question.

Adopted unanimously.

XI. Under what conditions does man import the cholera?

Man affected with cholera is himself the principal propagating agent of this disease, and a single cholera patient may cause the development of an epidemic.

Adopted unanimously; and—

XII. The Commission has been led to conclude that certain facts tend to prove that a single individual (with much greater reason many individuals) coming from a contaminated place, and suffering from diarrhœa, is able to cause the development of a cholera epidemic; or, in other words, that the diarrhœa called premonitory is able to transmit cholera.

Adopted unanimously.

XIII. What is the period of incubation?

In almost all cases the period of incubation, that is to say, the interval between

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the moment when the individual may have contracted the cholera poison and the commencement of the premonitory diarrhœa, or of confirmed cholera, does not go beyond a few days; all the facts cited of a longer incubation belong to the class where the contamination may have taken place after departure from the infected place.

Adopted unanimously.

XIV. Can the cholera be imported and transmitted by living animals?

There is no known fact which proves that cholera has been imported by living animals; but it is reasonable, nevertheless, to consider them, in certain cases, as belonging to the class of objects called susceptible.

Adopted unanimously, except by MM. Bykow and Lenz.

XV. Can cholera be imported and transmitted by linen, clothing, and in general by articles in common use?

Cholera can be transmitted by articles in common use coming from an infected place, and especially by those which have been used by cholera patients: and it also results from certain facts that the disease may be transported to a distance by these same articles when closely shut up from the outer air.

Adopted unanimously.

XVI. Can cholera be imported and transmitted by merchandise?

The Commission, while admitting with unanimity the absence of proof of the agency of merchandise in the transmission of cholera, admits (by a majority of 16 votes to 6) the possiiblity of the fact under certain conditions.

The negative votes were those of MM. Bykow, Goodeve, Lenz, Pélikan, Polak, and Van Geuns.

In consequence, until more fully informed, the Commission believes that it will be wise to consider as suspected, at least under particular and determined conditions, everything coming (*toute provenance*) from a cholera district.

Adopted unanimously, except by MM. Goodeve, Pélikan and Polak, who declined voting.

XVII. Can the bodies of patients who have died of cholera import and transmit the cholera?

Although it is not proved by conclusive facts that the bodies of patients dying with cholera can transmit the disease, it is prudent to consider them as dangerous.

Adopted unanimously, except by M. Sawas, who declined voting.

On the Influence of Means of Communication.—XVIII. What influence do the various modes of communication, whether by land or sea, have upon the propagation of cholera?

The Commission answers, that maritime communications are by their nature the most dangerous; that it is they which propagate most surely cholera at a distance, and that next to them comes communication by railroad, which in a very short time may carry the disease to a great distance.

Adopted unanimously.

XIX. What is the influence of deserts upon the propagation of cholera?

The Commission, resting upon facts established by experience, concludes that great deserts are a most effectual barrier to the propagation of cholera, and it believes that it is without example for this disease to be imported into Egypt or Syria, across the desert, by caravans from Mecca.

Adopted by all the members of the Commission except MM. Monlau, Pélikan, Polak and Van Geuns, who declined voting.

The Influence of Crowding.—XX. What is the influence of crowds upon the intensity of epidemics of cholera, as well as upon the propagation of the disease? and under what conditions does it exercise its influence?

All crowding together of human beings, among whom cholera has been introduced, is a favourable condition for the rapid spread of the disease—and, if this crowding exists under bad hygienic conditions, for the violence of the epidemic among them.

In this case the rapidity of the extension of the disease is in proportion to the degree of crowding, while the violence of the epidemic is, other things being equal, so much the greater according as individuals have been little exposed to the choleraic influence or not at all; that is to say, in other words, individuals who have already been exposed to the influence of a cholera atmosphere enjoy a sort of relative and temporary immunity which counterbalances the bad effects of crowding.

Finally, in the case of a dense crowd,

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the more rapid its separation, so much the more rapid is the cessation of the epidemic, at least if new arrivals of unaffected persons do not furnish new aliments for the disease.

Adopted unanimously.

XXI. What is the intensity and what the tenacity of cholera epidemics on ship-board?

The Commission replies that the intensity of cholera on board ships crowded with men is, in general, proportionate to the crowding, and is so much the more violent, other things being equal, if the passengers have not resided in the focus of cholera from which they started; that on crowded ships the spread of cholera epidemics is ordinarily rapid; finally, the Commission adds that the danger of importation by ships, and that of giving rise to a grave epidemic, are not entirely subordinate to the intensity, nor even to the existence of choleraic symptoms appearing during the voyage.

Adopted unanimously, except by M. Monlau, who declined voting.

XXII. What influence does the accumulation in lazarettos of individuals coming from a cholera district exercise upon the development of cholera among the people at quarantine and in the neighbourhood?

The Commission concludes that the crowding together of people coming from a place where cholera reigns in a lazaretto, has not the effect of producing, among the people at quarantine, a great extension of the disease; but that such a gathering is nevertheless very dangerous for the neighbourhood, as it is calculated to favour the propagation of cholera.

Adopted unanimously, except by M. Monlau.

XXIII. What influence do great collections of men, in armies, fairs, pilgrimages, exercise upon the development and propagation of epidemics of cholera?

The Commission concludes that great gatherings of men (armies, fairs, pilgrimages) are one of the most certain means for the propagation of cholera; that they constitute the great epidemic foci which, whether they march after the manner of an army, or whether they are scattered, as at fairs and in pilgrimages, import the disease into the country which they traverse; that these gatherings, after having been exposed, usually in a rapid manner, to the influence of cholera, become much less susceptible to its power, and that it disappears very speedily, unless newly arrived persons take the disease.

Adopted unanimously.

XXIV. What is the influence of dissemination upon the intensity and development of cholera epidemics?

The Commission concludes that the breaking up of a collection of people, at an opportune time, may render less violent an epidemic of cholera and even arrest its extension; but that this scattering, on the other hand, gives rise to great danger of propagating it, if it take place in the midst of a region as yet unaffected.

Adopted unanimously.

XXV. What part belongs to the pilgrimage to Mecca in the cholera epidemics of our day?

The part of the pilgrimage to Mecca, as an agent in propagating cholera as regards the neighbouring countries of Europe (the only one with regard to which we have positive information) has been the introduction of this disease into Egypt twice, with an interval of thirty-four years, during the hot season.

Adopted unanimously, except by M. Polak, who declined voting.

The Influence of Hygienic Conditions.—XXVI. What is the influence upon the violence of cholera epidemics exerted by hygienic and other conditions of locality; in other words, what are the assisting causes of cholera?

The Commission recognizes that the hygienic and other conditions which in general predispose a population to contract cholera, and consequently favour the intensity of epidemics, are: misery, with all its consequences; overcrowding, particularly of persons in feeble health; the hot season; want of fresh air; the exhalations from a porous soil impregnated with organic matters, above all with the dejections from cholera patients.

In addition, the Commission think that, as it appears demonstrated by experience that the discharges of cholera patients contain the generative principle of cholera, it is right to admit that drains, privies, and the contaminated waters of towns may become the agents for the propagation of this disease.

The Commission adds, that it seems to result from certain facts that the soil of a locality, once impregnated with cholera de-

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tritus, is able to retain for a considerable length of time the property of disengaging the principle of the disease and of thus keeping up an epidemic, or even of regenerating it after it has become extinct.

Adopted unanimously, except by M. Pélikan.

Immunity from Cholera.—XXVII. How is immunity from cholera to be interpreted?

The immunity which certain localities enjoy, that is to say, the resistance, permanent or temporary, general or partial, opposed by these localities to the development of cholera within their limits, is a fact which does not exclude transmissibility, but which indicates that certain local conditions, not yet entirely determined, are an obstacle to the development of the disease.

The same immunity, more or less complete and more or less durable, which the majority of persons in the midst of an infected district enjoy, an immunity which attests the individual resistance to the toxic principle, is a circumstance to which we should attach the highest importance.

In point of view of epidemic development, it is the corrective of transmissibility, and viewed with regard to prophylaxia, it sets in operation proper means to arrest the ravages of the disease.

Adopted unanimously, except by MM. Monlau and Pélikan, who declined voting.

Deductions relative to the Generative Principle of Cholera.—XXVIII. From the facts above established, and which relate to the genesis, the propagation and the transmissibility of cholera, can we draw any precise conclusion with regard to the generative principle of the disease, or at least with regard to the media which serve as its vehicles, or receptacles; with regard to the conditions of its penetration into the organism, the ways by which it passes out, the duration of its morbific activity, in a word, with regard to all its attributes, a knowledge of which is important to guard against it?

In the actual state of science, we can only frame hypotheses as to the generative principle of cholera; we know only that it originates in certain countries of India, and that it dwells there permanently; that this principle is reproduced in man and accompanies him in his journeyings; that it may also be propagated at a distance, from place to place, by successive regenerations, without ever being reproduced spontaneously outside of man.

Adopted unanimously, except by M. Goodeve, who declined voting.

XXIX. What are the vehicles of the generative principle of cholera?

Under the name of vehicles, the Commission intends to speak merely of the agents by means of which the morbific principle penetrates the organism. To this question the facts reply that the air is the principal vehicle of the cholera principle. . . . . The action of the cholera miasm is so much the more sure as it operates in a confined atmosphere and near the focus of the emission. . . . It seems that it is with cholera miasm as it is with the miasm of typhus, which rapidly loses its power in the open air at a short distance from its starting point.

XXX. To what distance from a focus of disease can the principle of cholera be transported by the atmosphere?

The surrounding atmosphere is the principal vehicle of the generative agent of cholera; but the transmission of the disease by the atmosphere, in an immense majority of cases, is limited to a space very near to the focus of emission. As for the facts cited of transportation by the atmosphere to the distance of one or more miles, they are not sufficiently conclusive.

Adopted unanimously, except by M. Goodeve, who declined voting.

XXXI. Independent of the air, what other vehicles are there of the cholera principle?

Water and certain ingesta may also serve as vehicles for the introduction into the organism of the generative principle of cholera.

This granted, it follows, so to speak, necessarily, that the passages by which the toxic agent penetrates into the economy are principally the respiratory passages and very probably also the digestive canals. As for its penetration by the skin, nothing tends to prove it.

Adopted unanimously.

XXXII. What are the principal receptacles of the cholera principle?

The matter of the cholera dejections being incontestably the principal receptacle of the morbific agent, it follows that everything which is contaminated by the discharges becomes also a receptacle from

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which the generative principle of cholera may be disengaged, under the influence of favourable conditions; it follows, also, that the origin of the cholera germ takes place very probably in the digestive canal, to the exclusion, perhaps, of all other parts of the system.

Adopted unanimously.

XXXIII. What is the duration of the morbific activity of the generative principle of cholera?

It results from the study of facts that, in the open air, the generative principle of cholera loses rapidly its morbific activity, and that this is the rule; but that under certain particular conditions of confinement, this activity may be preserved for an unlimited period.

Adopted unanimously.

Finally, the Commission adopts the following formula:—

Observation shows that the duration of the choleraic diarrhœa, called premonitory—which must not be confounded with all the diarrhœas which exist during the time of cholera—does not extend beyond a few days.

Facts cited as exceptional do not prove that the cases of diarrhœa prolonged beyond that period belong to cholera, and are susceptible of transmitting the disease, when the individual affected has been withdrawn from all cause of contamination.

Adopted by fourteen votes against four, viz: MM. Gomez, Millingen, Mühlig and Salvatori; M. Monlau declined voting.

—

Treatment of Cholera in the London Hospital.—It is stated in the *Lancet* (July 28th) "that during the previous week cholera had spread in a most malignant form over the east end of London, and with a severity not exceeded in any previous epidemic. As regards the treatment adopted, this has been of various kinds. Calomel in oft-repeated doses of twenty grains, astringents, stimulants, and hot vapour baths have been severally tried. Iced water *ad libitum* has been given in every case. In two cases injections of salines were thrown into the circulation, with the effect of producing immediate, but, unfortunately, not lasting, benefit. Transfusion of blood has been employed also in two cases with a similar result. It is a melancholy fact to record, but at the time of our last visit no case of undoubted cholera had recovered."

In the *Med. Times and Gazette* of the same date, we find some further details of the treatment which seems to be as purely empirical as ever.

Dr. Fraser said when the first case of cholera was admitted into the London Hospital "the inquiry that was forced upon him was, What are, if any, the new views as to the means of attempting to relieve the symptoms and obviate the tendency to death in this disease, more than were known during former epidemics? He admitted that no fresh practical means had been made known, and he said he entered upon his mission with feelings of deep depression, for his experience had shown him that no one drug or external appliance can be put down as the one thing to be given or to be done. He was sustained, however, by the knowledge that cases *have been*, as it were, snatched from the grip of death by various means, and held, therefore, that we are not to sit with folded hands, but to be up and doing all that science and common sense would dictate. Dr. Fraser, thus thrown back upon old resources, referred to certain papers published in the *London Medical Gazette* in 1848, where he had stated that five-grain doses of the sesquicarbonate of ammonia every hour were useful, and that the liquor ammoniæ itself internally acted as a most useful stimulant. 'Copious enemata of the chloride of sodium seemed in many cases to rouse the patient.' At that time he abjured, and further experience has made him continue to abjure, the use of opium, except in cases of what he calls spasmodic cholera. He wrote, 'I believe that when the patient is in a state of collapse opium is decidedly injurious.' In the former epidemic calomel in scruple doses was tried to a large extent, and with benefit in many cases. Transfusion of the following injection was practised in a few cases, and in one instance recovery was attributed to it: ℞.—Sodii chloridi ʒiij, sodæ carbonatis ʒij, aquæ lb. vj; two or three pints injected at a temperature of 112° Fahr. Dry frictions, and every other possible means of reproducing external warmth, were used.

"The foregoing, on the ground of having nothing new, have been the means up to this day more or less practised by Dr. Fraser at the London Hospital since this epidemic began, but with no greater success than

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formerly; if anything, scruple doses of calomel seemed to have allayed vomiting more than anything else.

"The employment of warm brandy and water in many cases of partial collapse was of great benefit. Iced water, and ice in the mouth, are most agreeable to the patients. Saline injections and the injection of sheep's blood into the veins have been tried in former epidemics at the hospital. Enemata of warm brandy and water have seemed in two cases to be useful. The experience as yet will not warrant any general conclusions.

"The following is the plan Dr. Andrew Clark pursues; If on the admission of the patient there is incomplete collapse, and the stools are in any degree feculent, castor oil, with or without a few drops of laudanum, is administered at once. Generally, however, by the time the patient has reached the hospital, the stools have become abundant and watery, the temperature of the body has fallen, the pulse is feeble, and the limbs and face are getting blue. Astringents are then begun at once, and the patient gets either the 'lead pill' or Dr. Clark's astringent mixture, in doses and at intervals modified by the circumstances of individual cases. Each lead pill contains two grains of acetate of lead, two grains of camphor, an eighth of a grain of opium, and about a twelfth of a drop of creasote. The astringent mixture consists of aromatic sulphuric acid, sulphuric and chloric ethers, tincture of camphor and opium, spirits of peppermint, and decoction of logwood. The patient is put into a warm bath for half an hour or longer, and the bath is repeated after a few hours if there be need either for increase of temperature or absorption of fluid. Warm water, with or without salines, is also injected into the bowels. The patient is allowed milk or beef-tea thickened with any farinaceous fluid, and is directed to drink small quantities of iced water at short intervals. Turpentine is applied to the abdomen. Frictions are used for cramps. The bath is not employed when there is complete collapse. In earlier cases it gives great and prolonged relief. If vomiting is incessant and exhausting, it is treated with teaspoonfuls of neat or nearly neat brandy. When diarrhœa has ceased for twelve hours or more, a dose of castor oil and laudanum is given, sometimes preceded by a little gray and Dover's powders.

"During collapse the sulphuric acid mixture is given without opium; hot bags are placed round the body, and ice or iced water given as freely as it can be borne; warm water is injected into the bowels.

"During reaction, when the tongue is furred and eroded, the patient takes a chlorate of potash drink. Lung congestions and dyspnœa are treated by very small bleedings.

"It ought to be observed that Dr. Clark's plan is merely tentative. He, however, lays great stress on the free ingestion of fluid, the use of the warm bath, warm water enemata, and astringents in the early stage of the disease.

"At the suggestion of Dr. Markham. Dr. Hughlings Jackson begged Mr. Little to inject defibrinated and oxygenated blood in some cases of collapse of cholera. (See report of Dr. Fraser's remarks.) Sheep's blood was procured, the fibrin was removed by whipping; the blood was strained, and then kept to a temperature of 110° F. by placing the vessel containing it in hot water. About six ounces of this hot fluid was injected into the veins of two patients, but it relieved them only for a short time, and appeared to bring on dyspnœa. These patients, however, were extremely ill when the operation was done, and Dr. James Jackson tells us the plan can scarcely be said to have been fairly tried. It is difficult to fix on the right sort of case. It is not fair to try it on a patient who is recovering, and to inject a patient who is nearly *in articulo mortis* is scarcely likely to lead to any result.

"Dr. Herbert Davies has adopted a saline treatment. The following is the prescription for the draught: ℞.—Sodii chloridi gr xx, sodæ bicarb. gr. xv, potassæ chloratis gr. x, aquæ ℥ij. as frequently as they will take it. The patient has, besides, as much water as he can drink.

"One physician whom we met at this hospital said that if he had to treat a case of cholera he should inject quinia subcutaneously. The subcutaneous injection of atropine has also been suggested.

"The use of warm baths finds great favour. Every patient who is not in extreme collapse is placed in a hot bath, at a temperature of about 100° to 105° F. As a rule, Mr Frederick Mackenzie tells us, the patients like the bath, and frequently beg for its repetition.

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"The Resident Officers tell us that they are continually receiving accounts of 'infallible' remedies from zealous medical men who visit the cholera wards."

In the No. of the *Lancet* for Aug. 11th, it is stated that Dr. Fraser is now "trying at the London Hospital, the inhalation of steam in a few cases. For about a fortnight he employed frequent doses of castor oil—a tablespoonful every two hours. The remedy was very much disliked by the patients, who in several instances, Mr. F. Mackenzie informed us, positively refused to take it. No marked good results attended this treatment; and Dr. Fraser has since returned to the administration of calomel—a drug which is at least more easily taken by the patient and given by the nurse. To an adult he gives twenty grains to begin with, and ten grains every two hours, and so on in proportion to the age of the patient. Mr. Davies tried podophyllin and camphor, of each a grain every alternate hour, and a mixture of sulphuric and hydrocyanic acid in the intervals. He now employs calomel in five-grain doses at two hours' interval. Dr. Andrew Clark is trying castor oil, saline lemonade, and lead pill in patients admitted on different days, so that a certain number of patients are undergoing each kind of treatment. He gives baths, with Condy's fluid.

"In one case, four grains of camphor dissolved in twenty drops of turpentine was injected subcutaneously, every four hours, five or six times. The case was severe, and the man died. We observed one man who had gradually passed into a state of collapse after his admission into the hospital and whilst taking frequent doses of calomel."

At Guy's Hospital, according to the *Med Times and Gazette*, Aug. 11, "Dr. Barlow treats cases in the stage of collapse, especially when vomiting is troublesome, by effervescing mixture, with two minims of hydrocyanic acid to each dose, every two hours. Besides this the patient is allowed to drink as much iced or cold water as he likes. Hot bottles to the feet are used in every case. Mustard poultices are applied to the epigastrium when the pain is intense. Dr. Owen Rees has tried inhalation of nitrous oxide in one case. A gallon of this gas was administered mixed with atmospheric air. This quantity was given at one dose on two occasions. The gas is put into a large elastic bag, to which is fixed an inhaler. It thus resembles Clover's chloroform apparatus. The case was a very bad one, and the patient died. In another case the same dose was given once; this patient was very bad when she was brought in, and she also died. In one case a gallon of half air and half oxygen was inhaled by a patient suffering from severe diarrhœa and vomiting. No perceptible effect was produced. This patient was admitted August 4, having then been ill a week. He is still in the wards, and is doing well. In two cases Dr. Rees directed the subcutaneous injection of Quassine. Thirty minims of a solution (containing two grains and a half of quassine) are injected into each arm every four hours. One of these patients, a man, died after eleven hours' illness. He died six hours after admission, and three and a half after the injection. This patient was almost pulseless and in extreme collapse when admitted. The other case, that of a woman, was a genuine case of cholera. Her temperature was 95° F. The solution was injected six times. She is now in the hospital, and it is hoped that she is doing well; but when we were last at the hospital (Wednesday morning), although her vomit was bilious, her motions fæcal, and although she had passed urine, her temperature was only 95°."

The editor of the *Lancet* may well remark (No. for Aug. 4), "We should feel little satisfaction at the progress of medical science if the treatment of cholera in some of our metropolitan hospitals were to be accepted as a fair example. To read the accounts collected by our reporter, and published in the *Mirror* of this and last week, is to feel that many of our hospital physicians are beginning in 1866, not where we left off in 1854, but where we began in 1849. It is melancholy to note the timidity—for it can be nothing else—which causes some physicians to linger still over the old notion that the more rapid and severe a disease shows itself, the 'stronger' must be the remedy. We find that drugs are still continued to be employed of which ample experience has shown the utter futility, and which are only prevented from destroying life because, happily, they are not absorbed—because, that is, they do not enter the economy, and cannot therefore act either for good or evil. We refuse to accept the treatment to which we have alluded as a

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correct representation of the thoughtful medicine of this day. Should, unhappily, cholera spread to other parts of the metropolis, we count most confidently upon finding physicians with sufficient moral courage to abstain at least from the possibility of doing harm where the means of certainly doing good are not yet disclosed, and who will recognize the great responsibility incurred in ill-regulated, haphazard inflictions of 'treatment' upon a human body hovering on the verge of the grave. We protest against the employment of measures which seem to be directed against disease as though it were a conscious enemy, to be driven, washed, frightened, or poisoned out of the body, but which are utterly inconsistent with the whole spirit of modern medicine."

—

Gason's Treatment for Cholera.—Mr. JOHN GASON recommends the following treatment of cholera: "The abdomen should be tightly swathed with a broad flannel binder sprinkled with chloroform, and the patient confined to the supine (horizontal) posture. As soon as the rice-water evacuations have commenced, and the fæcal evacuations have ceased, a tightly-rolled up towel, in length about eight or nine inches, and in circumference about three inches, and moistened with an antiseptic, should be placed lengthways beneath the buttocks, so that the orifice of the rectum may be about midway on the roller. No evacuation of the bowels should be permitted, which will be completely obstructed by the towel. Drinks must be strictly withheld until choleraic symptoms have passed. Some drops of chloroform should be given frequently on sugar during the stage of collapse. Opiates and stimulants are positively injurious, as they increase secondary fever."—*Lancet*, July 28, 1866.

[This reminds us of a suggestion gravely made by a late practitioner of this city, in 1832, that the anus should be securely closed with a soft cork so as to effectually restrain the alvine discharges, a proposal, we believe, actually carried out by some one abroad, whose name we have forgotten.]

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Roseola Cholerica.—It is stated (*Lancet*, July 28, 1866) that a rash has been observed to accompany the secondary fever of a certain number of cases of cholera. It has been mentioned by several English and continental authors, and is well described by Dr. Wilks in the Guy's Hospital Reports, third series, vol. iii. (1857). The roseola cholerica, as it is termed, exists in three varieties: 1, an eruption resembling roseola; 2, as smaller, more defined, and less vivid spots; 3, resembling scarlatina. The rash usually appears between the sixth and tenth days of the disease, but it is sometimes delayed much longer.

—

Progress of Cholera Abroad. IN THE EAST.—There is now little doubt that cholera reappeared in May among the pilgrims assembled at Mecca towards the close of the religious ceremonies, and that it was very fatal in the caravan which proceeded to Medina. The disease cropped out in Jedda on the 23d of May among the Indians and lowest class of Africans—persons suffering the extremest privations. Eight deaths were officially reported between the 24th of May and the 3d of June, but more are believed to have occurred. Among the pilgrims assembled at Yambo the disease would appear to have broken out earlier, as 99 deaths were reported on the 26th of May. At this port a large body of the returning devotees were compelled to perform a species of quarantine—that is, they were not suffered to leave the place until they were considered to be purified from the epidemic. The resources of the town failed. Water and food became extremely scarce, and famine threatened to become more deadly than pestilence. Some 3000 of the pilgrims, either by force or with the connivance of the authorities, or from the insufficiency of the guard, contrived to reach the vessels in the harbor and sailed for Suez. The news of this breach of quarantine having reached Egypt, stringent measures were taken to compel the fugitives to land at some distance from Suez, and there complete the period supposed to be requisite for their purification. To the present time cholera has not reappeared (except in an occasional so-called sporadic case) in Lower Egypt; but the disease broke out in May at Massowa, on the Abyssinian west coast of the Red Sea.

Tiberias (pop. 3000), an excessively filthy town of Syria, was visited by cholera in November and December last year. On the 24th of May the disease appeared there again, and from that date to June 5th there were 54 deaths.—*Lancet*, July 28, 1866.

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ENGLAND.—The number of deaths in *London* during the week ending July 28th, was from cholera 904, from diarrhœa 349; the whole number of deaths 2600. In the Registrar-General's report it is stated that the average number of deaths for that (the thirtieth) week of the year is, with a correction for increase of population, 1387. "The deaths in the present return exceed by 1213 the estimated number. The excess of deaths is caused entirely by cholera and diarrhœa. 904 deaths by cholera, 349 by diarrhœa, were registered in the week, making in the aggregate 1253 deaths. The deaths by cholera in the last five weeks have been 6, 14, 32, 346, and 904; by its allied disease diarrhœa 67, 102, 150, 221, and 349.

The Registrar-General's Report shows the deaths in London for the week ending Aug. 4th, to be cholera 1053, and 354 diarrhœa.

The *Lancet* in its editorial (Aug. 4) very justly remarks: "In the devastation which the cholera is working in the eastern districts of the metropolis, we are paying the dreadful price of local self-government by ignorant, careless, and unfit persons. The total neglect of sanitary provisions in the Poplar, Stepney, and Bethnal-green districts has been repeatedly and for years urged upon the attention of the local authorities. The miserable defects of water-supply and drainage, the loathsomeness of the closet arrangements, the accumulation of every kind of nuisance in a great number of our parishes have been suffered in spite of constant protests from medical officers and the public press, verdicts of juries, and recommendations of coroners. But what can be expected when local authorities are small tradesmen ignorant and supine, when the owners of the worst property have a predominant influence on the government of our parishes, and when boards of health and sanitary committees, vestries, and guardians can only be moved when cholera, long threatened and repeatedly announced, has forced the door and occupied every part of the place."

[We have repeatedly urged upon the people of this country to take a lesson from the dreadful effects of the neglect of sanitary measures abroad. The selfishness and avarice of property holders and the apathy and ignorance of the labouring classes, encourage the production of the same condition of things here. Evils which might be now prevented at a trifling cost, will hereafter, when once established, be only removable at an enormous expense, and after the most frightful loss of life, to say nothing of the loss of industrial labour which sickness entails.]

As the *Saturday Review* recently remarked: "When the public health is satisfactory, sanitary reform is naturally [held to be] rather a dull subject, and sanitary reforms run the risk of being voted at least equal nuisances with the abuses which they wish to get removed."

At *Southampton* cholera still prevails; the number of deaths up to the end of July was 101.

Liverpool.—The official *weekly* returns of deaths from cholera in this borough are as follows:—

Week ending July 7th,	4	deaths.
" 14th,	19	"
" 21st,	45	"
" 28th,	87	"

West of England.—Four deaths from cholera have occurred at *Sherbourne.* The disease made its appearance in a filthy locality, known as Cold Harbour, inhabited by very poor people, where the drainage is bad, and where the water supply is miserable.

Ireland.—Three deaths from cholera were reported in Dublin.

GERMANY.—The disease is still rife in Northern Germany. In *Berlin*, it is on the decrease, the number of cases has diminished from 200 to 139 daily. The whole number from the beginning of the epidemic to July 28, was 4401 cases of which 2338 died, 523 recovered, and 1540 were under treatment.

It is reported that the Prussian troops stationed near Brünn are sorely afflicted with cholera, dysentery, and typhus.

Dresden.—A few cases have occurred in this city.

At *Hamburgh*, there were from June 30 to July 26th, 156 cases and 98 deaths.

Holland.—The following are the number of deaths from the commencement of the epidemic up to July 25 in the chief towns—Amsterdam, 439; Leyden, 866; the Hague, 691; Delft, 389; Schieden, 221; Rotterdam, 945; Dortrecht, 347; Gonda, 129; Utrecht, 1365; and up to July 26, in Haarlem, 159; Kampen, 171; Meppel, 187; Groningen, 792.

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Belgium.—The epidemic is still making considerable progress, affecting not only the populations of large towns, but those of small localities.

At *Brussels* the disease has increased. The number of cases from July 4 to 18, at the two hospitals, St. Pierre and St. Jean, amounted to 224 with 107 deaths, besides between one and two hundred bodies brought to the *morgue* of the hospitals.

At *Antwerp*, from the commencement of the outbreak to the 25th of July, the number of cases was 2798, and of deaths 1564

North of Europe.—The total number of cases in *Dantzig*, from the beginning of the outbreak to the 8th of July, was 332. In the week ending 26th of July the cases were 243, and the deaths 128.

In *Stockholm*, on the 5th of July, there were 5 deaths from the epidemic.

In *Stettin*, on the week ending July 18th, the number of cases was 399, of deaths 256. In the week ending July 26th, number of cases 300, deaths 211.

The Danube and Pruth.—Prior to the 13th of July cholera of a very malignant type was prevalent at Ismaïl, Ibraïla, and Galatz. The disease also was raging at the same time at Toultcha, Reni, Jassy, Bucharest, Grazova, and other towns, also in the villages along the course of the Pruth.

St. Petersburg.—From the commencement of the epidemic June 14th to the 14th of July, 1918 deaths were reported.

Cronstadt.—From June 14th, the onset of the epidemic, to July 12th, 244 deaths occurred.

Konigsberg.—July 31. About 1000 cases have occurred of which 600 have terminated fatally.

FRANCE.—It is impossible to ascertain the extent to which cholera prevails in *Paris*, since the authorities have absolutely prohibited all returns being published. According to the *Gazette Hebdomadaire* from the 17th to the 24th of July there were 679 deaths from the epidemic, but there is reason to believe that this is below the reality.

At *Marseilles* the deaths from cholera, from the 15th to the 22d July, both days inclusive, was 135.

Many localities in the *Département du Nord* have suffered.

The disease is prevalent among the towns and villages along the whole length of the river Lys. At Dunkerque there has been no death since the 3d of June. At Amiens the epidemic appears to be rapidly declining. On the 3d of July, 71 deaths were registered; on the 5th, 31; on the 6th, 40; and on the 12th the deaths had fallen to 14. At Paimbœuf the disease has broken out seriously. Bordeaux has come within the range of infection, and many deaths are reported. At Anvers the mortality had reached from 40 to 50 daily. The epidemic has also appeared at Rouen, Forges, arrondissement Rochefort (Charente Inférieure).

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Progress of Cholera in the United States.—The present visitation of cholera has been with few exceptions a mild one. It has appeared at various points on the Atlantic coast and along the Mississippi and Ohio rivers, but its progress has been devious; many towns in its direct course being passed over; and its stay in most places has been shorter than usual.

New York.—The disease has greatly abated in the Islands in the bay. In the city of New York the deaths from cholera for the week ending August 4th, was 239; Aug. 11th, 250; Aug. 18th, 145; August 25th, 114. Deaths from all diseases, 714.

Brooklyn.—Deaths from cholera for the week ending Aug. 18th, 95; Aug. 25th, 65.

Philadelphia.—The disease still lingers here, though not very extensively, as will be seen from the following table showing the mortality from bowel complaints and all causes for the last four weeks:—

	Mortality in Philadelphia from						
	Cholera Infantum.	Diarrhœa.	Dysentery.	Cholera Morbus.	Cholera.	Total Bowel Affections.	Total Mortality from all diseases.
1866.							
Week ending Aug. 4,	106	19	12	26	47	210	504
" " " 11,	73	11	17	24	52	177	471
" " " 18,	77	6	24	16	56	179	435
" " " 25,	61	23	24	15	91	214	462

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Cincinnati.—The disease has prevailed there to a considerable extent, as is shown by the following statement of deaths from it for several days: August 16th, 78; Aug. 17th, 64; Aug. 18th, 69; Aug. 19th, 54; Aug. 20th, 61, Aug. 21st, 53; Aug. 22d, 33; making a total for seven days of 412.

St. Louis.—This city has suffered more from the scourge than any other in this country. The deaths from it for the week ending Aug. 17th, was 648; the total mortality from all diseases 895 in a population of 175,000. The Board of Health has ceased to report, but from the reports of the interments in some of the cemeteries it is evident that its ravages have not diminished. It is estimated that 1300 deaths occurred from it during the week ending August 23d.

New Orleans.—The deaths from cholera on August 22d were 27.

Mobile.—Four deaths from cholera during week ending August 25th.

New York Academy of Medicine on the Preventive and Remedial Treatment of Cholera.—We take pleasure in complying with the request of the President of the New York Academy of Medicine, for the publication of the following preamble and resolutions, adopted by the Academy:—

Whereas, The New York Academy of Medicine has endeavoured to promote among its own members, and throughout the medical profession, a spirit of exact and practical inquiry into the preventive and remedial treatment of epidemic cholera; therefore, be it

Resolved, That this Academy hereby expresses its confidence in the utility of general and specific hygienic measures as the best means of protection against the pestilential prevalence of cholera in any locality where it makes its appearance; and that the most thorough scavenging, cleansing, and disinfection are absolutely necessary means of averting this pestilence in the cities and populous towns of our country at the present time.

Resolved, That in the judgment of the Academy the medical profession throughout the country should, for all practical purposes, act and advise in accordance with the hypothesis (or the fact) that the cholera diarrhœa and "rice-water discharges" of cholera patients, are capable, in connection with well-known localizing conditions, of propagating the cholera poison; and that rigidly enforced precautions should be taken in every case of cholera to permanently disinfect or destroy those ejected fluids by means of active chemical agents; also that with the same object in view, the strictest cleanliness of persons and premises should be enforced upon all who have charge of the sick; also, that all privies, water-closets, and cesspools should be kept thoroughly under the control of disinfectants.

Resolved, That we regard the nature and causes of cholera infection, so far as the sick or their discharges can propagate it, as being so susceptible of control that there should be no fear or hesitancy in the personal care of the sick and all that pertains to them.

Resolved, That immediate and thorough cleansing and disinfection of all persons, clothing, and things that have been exposed to the discharges or persons of the sick with cholera constitutes the chief end and object of any rational quarantine or external sanitary police regulation against cholera.

Resolved, That for the purposes here mentioned, an external sanitary police is desirable in all great maritime and river towns, but that such sanitary regulations need not seriously embarrass commercial intercourse and the interests of trade.

Resolved, That the main source of protection against epidemic cholera at the present time is to be found in the vigilant and effective operation of sanitary measures, municipal, domestic, and personal.

Resolved, That the New York Academy of Medicine cordially invites the physicians of every city and village throughout our country to urge the immediate adoption of adequate measures of sanitary protection against the introduction and ravages of cholera, and to this end we pledge our brethren and the public the hearty and continued coöperation of this Academy.

The above resolutions were unanimously adopted by the Academy.

FOREIGN INTELLIGENCE.

Raw Flesh and Brandy in the Treatment of Phthisis.—The method of treating consumptive diseases by raw meat and alcohol appears, according to M. Fuster's statements, to have been attended with wonderful results. It has now been tried in no less than 2000 cases, and in nearly all successfully. The patients increase in weight

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to the extent of two, three, four, or six kilogrammes in the course of two or three weeks. Mr. Fuster recommends the adoption of his treatment for the following maladies: Advanced anæmia, the last stages of ague, typhus and typhoid, leucocythæmia, albuminuria, and diabetes, and also in cases where there has been great loss of blood or seminal fluid.—*Lancet*, July 21, 1866.

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Insufflation of Medicated Powders in Gleet.—Dr. Mallez has contrived an instrument by which medicated powders can be conveyed to the membranous portion of the urethra, a region where lies the cause of the gleet, and which region ordinary injections cannot reach. The instrument is chiefly composed of a catheter opened at both ends, another which glides into it, and an apparatus for receiving and projecting the powders. M. Ricord presented the instrument to the Academy of Medicine of Paris, and cases are mentioned in which excellent results were obtained by insufflating subnitrate of bismuth. It is plain that, by previous micturition, the powder may remain hours in the passage; and it is thought that the vagina, uterus, or any fistulous tract may perhaps be reached in the same way.—*Lancet*, July 28, 1866.

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Cæsarean Section under Local Anæsthesia.—Dr. Newman, of Stamford, has performed Cæsarean section under Dr. Richardson's process, and so far as the operation is concerned, with entire success. The patient had cancer of the os uteri to such an extent as to render delivery *per vias naturales* impossible. The incisions through the abdominal parietes and uterus were painless, and the fœtus and placenta were very easily extracted.—*Med. Times and Gaz.*, July 28, 1866.

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Death from Fear of an Operation.—In a recent number of the *Gazette des Hôpitaux*, M. Cazenave, of Bordeaux, narrates the particulars of an interesting case of death from fear just prior to an operation for lithotomy, and which, had chloroform been administered, would probably have been attributed to its influence. A distinguished veterinary surgeon, about 60 years of age, of good constitution, and possessed of great moral force, had suffered for a considerable period from multiple stricture of the urethra and a highly irritable bladder. After the urine had become purulent and ammoniacal, the presence of four calculi was ascertained. In the hopes of being able to perform lithotrity, M. Cazenave persevered for a considerable time in an endeavour to relieve the painfully spasmodic condition of the urethra. These attempts were most courageously borne by the patient, but he was excessively disappointed when informed that lithotrity, which he was very desirous of undergoing, was out of the question, and that some form of lithotomy was the only operation that was eligible. Of this he was known to entertain a great dread, but, nevertheless, at once gave his consent to its performance, retaining to all appearance his habitual calmness. In consultation it was determined to attempt the bilateral operation, and the patient having been placed and held in position by the assistants, M. Cazenave was on the point of introducing the catheter when the patient, who had exhibited entire calmness and serenity during the preparations, was observed to become pale and faint, and in the course of ten minutes, in spite of all that was done, he died. When this nervous syncope seized him, the operator had not yet even touched him.—*Med. Times and Gazette*, July 28, 1866.

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Social and Moral Condition of the East London Population.—The editor of the *Med. Times and Gazette*, in his No. for Aug. 4th, thus speaks of the squalor of a large part of the East London population who are now suffering so severely from cholera. This squalor "we have seen with our own eyes this week in a Bethnal-green street, where a patient had died in almost every house. In one house the yard was a pool of dirty soapy water, *in which* the water-butt was standing; the butt itself uncovered, dirty, green with mould, containing a host of 'foreign bodies' at the bottom—the privy foul and stinking—the yard strewed with rubbish. Now this is a state of things common amongst the poor from East to West; but why? It is of no use to blame vestries, or medical officers of health, or landlords; granting that they may fail in their duty, why do not the people—the victims—help themselves? Surely any man might in ten minutes raise a water-butt out of a puddle of filth and put it on a few bricks; he might contrive a cover for it; he might sweep up a yard, and pour a bucket of water down a closet and brush it

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out, and in the present panic he might get gratis from any vestry enough carbolic acid or chloride of lime to disinfect a street! But the poor will not stir a finger to help themselves. They may be on the look-out for district visitors with money, soup, and tracts, or they may trust to luck or to Providence, or may console themselves by saying that they can't die till their time is come—but they won't stir a finger to help themselves. This cholera is a severe test of our sanitary and hygienic arrangements; it is a still severer one of our social and moral condition."

—

Adhesion of Austria to the Neutrality of Army Surgeons.—We see that it is just announced that Austria has at last given in her adhesion to the provisions for the neutrality of Army Surgeons and the wounded adopted by the Geneva Congress, she being the only European power who had not already agreed to them. It would have been more commendable as well as more advantageous for her if she had done this before the commencement than after the termination of the present war. At the battle of Skalitz an Austrian ambulance, posted to all appearance in the best possible manner for the execution of its duties and for securing a retreat if necessary, was suddenly charged from behind by a troop of Prussian cavalry, and the Doctors trodden under foot. The chief Medical officer, Dr. Kloss, was precipitated into the River Aupa, and was seen no more, while another Surgeon was kicked by a horse, and a third killed outright. In a neighbouring ambulance a consultation of Surgeons was suddenly dispersed by a shower of projectiles, leaving behind twenty-six severely wounded soldiers, protected only by a white flag. An ambulance, formed in the woods at the battle of Sadowa, was only discovered by the Prussians two days afterwards, the wounded having been abandoned by their medical attendants, and left without any succour whatever. So, too, 130 wounded were left in a hospital at Lechtomischel, without any succour, until the arrival of the Prussians three days afterwards. It is said, also, that as many as eighteen Austrian Surgeons were either killed or captured. Two prominent members of our profession at Vienna—Professors von Pitha and Hebra—have to deplore the loss of their sons, both Army Surgeons, one killed at Skalitz, and the other wounded and made prisoner.

Lady Volunteer Nurse in the London Hospital.—In the cholera wards of the London Hospital, in a scene of suffering and death sufficient to try the stoutest heart, a lady volunteer nurse has passed her time since the beginning of the epidemic, moving from bed to bed in ceaseless efforts to comfort and relieve. So very youthful and so very fair is this devoted girl that it is difficult to control a feeling of pain at her presence under such circumstances. But she offered her help at a time when, from the sudden inroad of cases, such assistance was urgently required, and nobly has she followed her self-sought duty. Wherever the need is greatest, and the work hardest there she is to be seen toiling until her limbs almost refuse to sustain her. And the effect of the fair young creature's presence has been that the nurses have been encouraged by her never-failing energy and cheeriness, so that dread of the disease has been lost in efforts to combat it. This is an instance of devotion which it would be an insult to praise—it need only be recorded.—*Lancet*, July 28, 1866.

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British Medical Association.—This Association held its annual meeting this year on the 19th August, at Chester. Next year it is to meet at Dublin under the presidency of Dr. Stokes.

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Honours to Medical Men.—The Queen of Great Britain has elevated Sir James Clark to the dignity of Commander of the Order of the Bath; and conferred Knighthood on Dr. Thomas Watson, President of the Royal College of Physicians; both are well worthy of this acknowledgment of their merit.

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Obituary Record.—Died, in Edinburgh, May 17th, David Craigie, M. D.

—— At Worcester, July 30th, in the 73d year of his age, Sir Charles Hastings, M. D., the founder of the British Medical Association, and one of the most eminent and highly esteemed physicians in England.

—— In Paris, July 31st, of cholera, aged 69, M. Gibert, the celebrated Dermatologist of the Hôpital St. Louis. Mr. G. had for several days suffered from premonitory diarrhœa, but neglected to take any measures to arrest it, as he had always ridiculed the significance of such prodrome. He fell a victim to that error of judgment.

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JONES ON FUNCTIONAL NERVOUS DISORDERS. 12 PAGES.

CLINICS.

CLINICAL LECTURE.

Clinical Lecture on Addison's Disease. By EDWARD HEADLAM GREENHOW, M. D., F R. C. P., Assistant Physician to Middlesex Hospital, &c. &c. — *Gentlemen :* I propose to bring under your notice to-day a rare but very interesting disease, which was first recognized only a few years ago by the late Dr. Addison, of Guy's Hospital, and is on that account now commonly called Addison's disease. It consists in a particular change of structure in the suprarenal capsules, which usually manifests itself by a peculiar train of constitutional symptoms and by a very remarkable discoloration of skin. From this last-named most striking, though not quite invariable feature, the disease has been frequently but not very happily termed bronzed skin disease; for it is only in a comparatively small number of cases that the peculiar discoloration of skin could be accurately described by the term bronzing.

During the last twelve months, it has singularly happened that we have had in the wards of the hospital four well-marked cases of this uncommon disease; namely, two under Dr. Thompson's care, one under the care of Dr. Stewart, and one under my own care. My own case and one of Dr. Thompson's left the hospital much benefitted by treatment, and are still under my occasional observation as outpatients; Dr. Thompson's other case proved fatal on the 2d instant; and the case under Dr. Stewart is at present in Founder Ward. The suprarenal disease in this patient is, I scarcely doubt, associated with caries of one or more vertebræ, which is by no means an unusual complication of Addison's disease; but the case is none the less, in its history and progress, a typical example of that disease; and the discolouration of skin is perhaps the most characteristic of any which has come under my observation. Partly

Published monthly by HENRY C. LEA, No. 706 & 708 Sansom Street, Philadelphia, *for One Dollar a year; also, furnished* GRATUITOUSLY *to all subscribers of the "American Journal of the Medical Sciences," who remit the Annual Subscription, Five Dollars, in advance, in which case both periodicals are sent by mail free of postage.*

☞ *In no case is this periodical sent unless the subscription is paid in advance.*

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on this account, and partly also because you have still the opportunity of verifying my statements, I proceed, with Dr. Stewart's permission, to read you an abstract of the notes I have taken of the case.

C. S., aged 32, was admitted an in-patient on the 13th of February. In early life he worked as an agricultural labourer in his native county of Herefordshire, but for the last thirteen years has been employed as a coal-porter at a London wharf About three years previously to the commencement of his illness, he had strained his back severely in the lower dorsal region while shunting a loaded coal-truck, and had felt as if something gave way at the moment of the accident. For some days he suffered much pain in the part, and more or less ever afterwards, though he was able to continue his work. He did not himself attribute the origin of his illness to this injury, and, indeed, attached so little importance to it, that I only elicited the fact by careful inquiry. He stated his health to have been uniformly good until about eight or nine months before his admission to the hospital, when his illness began with headache, sweating and debility, followed by loss of appetite, sickness and breathlessness on exertion, with pain in the lumbar region and right flank. The symptoms of asthenia steadily increased; faintness was superadded to breathlessness on making any muscular effort; and he had been incapacitated from labour for about two months before he came under our observation a month ago. The gastric disturbance also continued; he had nausea, and retching at other times, as well as vomiting after food; the pains in the loins increased in severity, and became associated with gastralgia and with pains in both hypochondria; and these symptoms were all much aggravated by any attempt to move about. Three or four months after the accession of the first constitutional symptoms, his wife had noticed a slight duskiness of colour, which she believed was at first confined to the face and hands, but which gradually spread over the whole body, and progressively deepened in hue.

On careful examination a few days after his admission, I found the skin generally of an olive-brown colour, which was especially marked on the face, hands, and neck; the shade being deepest on the more exposed parts, and least dark on that part of the forehead covered by the hair. The chest, down to the fourth rib, was paler than the face and neck; but the nipples and areolæ were very dark. From the fourth rib downwards, the colour gradually deepened; the abdomen was very dark; the groins still more so; and the penis and scrotum almost black. The upper parts of the thighs were also dark, but the colour faded away towards the legs, which were very lightly tinted. On the right flank, and also over the lumbar vertebræ, were well-defined oval patches darker than the surrounding skin, corresponding with the sites of blisters which had been applied some months previously for the relief of pain in those parts. The knuckles likewise were more deeply coloured than the rest of the hands. But for the thoroughly English cast of the man's features, the peculiar tinge of the discolouration might have easily caused him to be mistaken for a person belonging to one of the darker races of mankind. The white pearly hue of the conjunctivæ contrasted strongly with the dusky complexion; and this is a peculiarity which has been remarked by all those who have carefully observed genuine cases of this disease. Upon the face were several small black specks, which might have passed for congenital marks, had not the patient's wife assured me that they had appeared since the commencement of his illness—a statement corroborated by the fact that they have manifestly darkened and increased in size, if not in number, since he came under observation. Lastly, there was a dark stain upon the right edge of the tongue, near the tip; and the lips and buccal mucous membrane generally were mottled with brownish discolouration.

In this description, noted nearly a month ago, I have not found it necessary to make any change; for the only alteration that has occurred is the general deepening of the discolouration characteristic of the later stages of the disease.

The patient has complained more or less, ever since his admission, of pain in the loins and right side, and of occasional pain in one or other hypochondrium, but most frequently in the right. He also complains of difficulty in stretching out his legs when he has been lying for some time on his back, his feet resting on the bed and his knees raised; and says that this difficulty is caused by a sense of tightness, as though the extension of the legs were restrained by cords

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situated between the flanks and the groins. He has, moreover, a feeling of weakness in the back, as if it were broken or had a loose joint; and a sense of constriction round the lower part of the abdomen, which seems to start from the weak and painful portion of the spine. He rarely now attempts to leave his bed; but when he does so, suffers from vertigo, with dimness of sight and sickness, accompanied by such extreme prostration, that he is afraid of falling; and, when he sits down in a chair, can scarcely rise again. He has an anxious, exhausted expression of countenance, which is increased by sitting up in bed; is breathless on the slightest exertion, with a tendency to yawn, especially at nights; has frequent retchings, and rarely passes a day without vomiting. His appetite is bad; bowels confined, the fæces being dark coloured and dry; urine normal. The pupils of his eyes are large, and act sluggishly under the stimulus of light. He is slightly deaf; but his intelligence is unimpaired. He sleeps badly, owing to the pain in the loins, which he says is more intense by night than by day. There is frequently uneasiness on pressure over the epigastrium and one or other hypochondrium, and always great tenderness on pressure, and severe pain on percussion, over several of the lower dorsal and upper lumbar vertebræ; but he has neither difficulty in micturition, nor yet pain, numbness, nor formication in the lower limbs. The pulse varies from 80 to 100, is exceedingly feeble even when the patient is in a recumbent posture, and becomes almost imperceptible when he is raised up in bed. The percussion-resonance over the anterior and upper part of the chest is slightly deficient; and the respiration is tubular below the right clavicle, and harsh below the left. There is also increased vocal vibration on the right side. The percussion resonance is somewhat deficient over the base of the right lung posteriorly, and the respiration is somewhat harsh over the back of both lungs; but there are no moist sounds. The patient has slight cough, and is subject to catarrh. The heart's impulse, though feeble, is comparatively stronger than the arterial pulse; and the sounds are healthy.

The history and progress of this case render it, as I have said, a typical example of Addison's disease; for although it is true that, besides the vertebral complication to which I have already alluded, there exists apparently some slight inactive pulmonary affection, I need not tell you that neither of these would account for the peculiar constitutional symptoms and discolouration of skin which I have described, and which present in an unusually striking and fully developed form all the features recognized as belonging to this remarkable malady.

As regards the assumed vertebral disease, I am led to diagnose it both by the local pain and tenderness in the lumbar vertebræ, and also by the sense of constriction round the abdomen, and the difficulty in stretching out the legs. Lumbar pain, and obscure pain on percussion over the loins, are indeed common in this disease; but here the pain is more severe and better defined than in simple cases of Addison's disease, and is accompanied by the other symptoms which I have described, and which are by no means usual features. I have no doubt that the injury to the back, received now nearly four years ago, produced some mischief, which set up slowly progressive inflammation, with, as I have said, probably caries of the bone and the formation of an abcess; and, if we should hereafter have the opportunity of examining the state of these parts, I expect that we shall find the cellular tissue around the suprarenal capsules thickened, and the capsules themselves infiltrated with tubercular or scrofulous-looking deposit. The time that has elapsed since the injury is indeed considerable, but by no means unparalleled; and I may mention that, in a case of this disease under my own care some years ago, the illness appeared also to have originated from a strain in the back received seven years before the commencement of definite symptoms of Addison's disease. That there is an intimate relation between the vertebral and suprarenal disease in our present case, I am well assured; and I believe the latter to have been caused by the extension of inflammation from the cellular tissue in the vicinity of the carious bone to that surrounding the capsules, and from it, secondarily, to the capsules themselves, which have thus become the seats of inflammatory deposit. My opinion respecting the origin of the suprarenal disease in this case is confirmed by a careful perusal of all the published cases I have been able to meet with; for not only has caries of the spine been found associated with Addison's disease in more cases than any other lesion, excepting always tubercle in the lungs and

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other organs, but in many other cases in which it was not found I am persuaded, by the symptoms recorded during life, that disease of vertebræ might have been discovered, had it been sought for at the *post mortem* examinations. Moreover, even when no disease of the spine exists, the capsules are often found adherent to adjoining organs, and surrounded by thickened cellular tissue, showing that inflammation has probably been the primary link in the chain of local mischief.

The pulmonary affection in this case may be of tubercular character; but, whether or not, it is assuredly much too slight to be of any moment in the illness, and far less could it account for the remarkable prostration and other symptoms under which the man is labouring. Seeing, however, that his occupation has been of a very dusty nature, that he has been subject to catarrh, and that there is certainly no marked difference of percussion-note in the two infraclavicular regions, I incline to believe that the slight chest-symptoms are due rather to continued mechanical irritation arising from the inhalation of dust, than to actual tubercular disease. But on this point I can only speak with some doubt and reserve; for the physical signs are slight, and the patient's condition such as to preclude a thorough examination, and it is certain that tubercular disease of the lungs has been frequently found associated with Addison's disease in so quiescent a form as to have given rise to no prominent symptoms during life. Moreover, as I have myself explained on many occasions, the pulmonary affection caused by mechanical irritants is apt to develop slow tubercular disease in persons of strumous constitution.[1] Be this as it may, after eliminating all those symptoms which can be referred to the vertebral and pulmonary complications, there still remain, in an unusually complete degree of development, almost all those especially characteristic of Addison's disease of the suprarenal capsules; and, before proceeding further, it will perhaps be well that I should sum up these under the two heads of Constitutional Symptoms and External Signs; as I have observed them, more or less perfectly developed, in all the genuine cases of the disease which I have had the opportunity of watching.

1. *Constitutional Symptoms.*—These are gradually progressive asthenia, often originating without any apparent cause, and seldom dating from any definite period; great languor and indisposition for exertion, with, in advanced cases, breathlessness and palpitation, frequent sighing or yawning, and generally faintness on making any muscular effort, sometimes even on being raised up in bed. There is almost invariably great weakness of the heart's action and remarkable feebleness of pulse; loss of appetite; irritability of stomach with nausea; and towards the end always occasional, often persistent, vomiting. The mind is generally clear to the last; but so great is the prostration in the latest stage of the disease, that the patient often lies in a drowsy, apparently semicomatose state; from which, however, he can be roused by questions, and to these he generally gives pertinent, though slow and reluctant answers. The above I should class as the characteristic symptoms of the disease; but there are, in many cases, pains in the loins, hypochondria or epigastrium, more rarely vertigo and dimness of sight, and occasionally, near death, a tendency to delirium. Death takes place from asthenia, and sometimes rather suddenly. It is a remarkable fact that, notwithstanding the great debility which is the earliest and most constant symptom of the disease, there is, as a rule, in uncomplicated cases, comparatively little or no emaciation. The skin also is soft and cool; the tongue usually clean and moist until the last days of life; the bowels seldom disordered, though sometimes confined; and the urine generally normal. I should not omit to state that the constitutional symptoms which I have described are sometimes masked, or have at least been overlooked, in cases in which Addison's disease existed contemporaneously with some other serious wasting disease, such as phthisis or lumbar abscess; but even in such cases the languor

[1] This lecture was delivered on the 14th of March, and the patient here referred to died on the 28th. In order to complete the case, I may mention that the suprarenal capsules were found in the state anticipated, the disease being evidently furthest advanced in the left capsule. On the left side of the spine, the intervertebral substance had been torn, apparently by violence, from the upper surface of the first lumbar vertebra for about two-thirds of its depth, and in front of the spine, extending from the seventh dorsal to the third lumbar vertebra, was an abscess, containing about two ounces of thick curdy pus. The bodies of the vertebræ involved were denuded and rough. Both lungs were extensively adherent to the walls of the thorax, and the apices presented small masses of obsolete cretaceous tubercle, surrounded by consolidated pulmonary tissue.

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and prostration have for the most part been out of all proportion to the severity of the more obvious complaint.

II. *External Signs.*—The external signs of Addison's disease are found in the peculiar features of the discolouration of the skin, which when present in a fully developed form is, I need scarcely say, the most striking symptom of the disease: and has indeed, in most cases, been the main ground on which it has hitherto been diagnosed. This discolouration of skin is generally of a dusky or yellowish-brown, but sometimes rather of an olive or greenish-brown hue, and gives to the persons in whom it is well marked the appearance of belonging to one of the darker races of mankind. The shade is not uniform on all parts of the skin: being generally deeper on the face, neck, and hands, and in the axillæ and groins, than over the general surface of the body. The penis and scrotum and the nipples and areolæ are usually the darkest parts, and their discolouration may be regarded as among the diagnostic external signs of Addison's disease, although it is true that they have sometimes been absent in otherwise well marked cases. If the patient have been blistered, or have sustained any other superficial abrasion of the skin, the injured surfaces are always darker than the surrounding parts; but the cicatrices of deeper injuries usually remain pale, or, at most, are bordered by a dark ring. Very often, also, small, well-defined specks or patches, resembling black freckles, are found upon the face, neck, arms, or trunk; but, so far as I have observed, they appear only on the already discoloured parts. Although the discolouration is generally most marked on certain parts of the body, and may even exist on some parts whilst the skin is in other places of normal hue, there is rarely or never, excepting when the boundary coincides with that of some former injury, any definite line of demarcation between the discoloured and normal portions of the skin, but the former fade insensibly into the latter. In strongly marked cases, the characteristic discolouration is also frequently found upon the lips in the form of an irregular stain running lengthwise, and upon the buccal mucous membrane and sometimes also upon the gums and tongue, in the form of patches or mottled stains; but the discolouration on the tongue, in the only cases I have seen, has assumed a somewhat purplish instead of the usual brownish hue. These discoloured patches inside the mouth may perhaps, when present, be considered as the most decisive of the external diagnostic signs of Addison's disease; they afford a further analogy between the discolouration which takes place in Addison's disease and the natural colouring of the darker races, several individuals of these races who have come under my observation having presented similar dark stains on these parts. It is, on the other hand, important to remark that the conjunctivæ always retain their normal hue, and in the more deeply discoloured cases their pearly whiteness presents a striking contrast to the dusky hue of the face.—*British Medical Journal*, July 7, 1866.

(To be continued.)

HOSPITAL NOTES AND GLEANINGS.

Excision of the Hip joint.—In the beginning of March there were discharged from the Charing-cross Hospital two children, whose hip-joints Mr. BARWELL had excised within a week of each other. On that occasion he made remarks to his class, which we abbreviate below.

Having operated a goodly number of times, Mr. Barwell said he would epitomize the results of his experience under three heads—1. Choice of case. 2. Mode of operation. 3. After-treatment.

1. When the bone is carious and dislocated there is no doubt as to the propriety of operation. When the head of the femur is not dislocated, but carious, producing abscesses, especially inside the pelvis, the sooner the caput femoris, and, if there be pus in the pelvis, the floor of the acetabulum, be removed the better. When, from neglect, the dislocated thigh-bone has become anchylosed to the dorsum ilii, in such position as to render the thigh a useless incumbrance, the head or neck of the bone should be cut through.

2. Concerning the mode of operation very few words need be said. It is most important to make the incision so that during after-treatment, while the patient lies on his back, there shall be a free depending opening; and, moreover, it is very desirable to inflict as little injury as possible on the surrounding soft parts. Mr. Barwell makes but one semilunar incision, beginning above

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the trochanter, passing behind it, and ending on the outside of the femur. This gives abundant room for attacking either the top of the femur or the pelvis.

3. Of certain points in the after-treatment the two cases in question gave interesting illustration. From Lewis N——, aged seven, operated on 20th May, 1865, a large portion of the pelvis—viz., the whole floor of the acetabulum—was removed for pelvic abscess, and a quantity of pus discharged through the opening. On the fourth day, discharge from the wound suddenly ceased; the edges were all separated and opened out with the finger, and a drainage tube carried to the bottom of the wound. It is, in Mr. Barwell's opinion, very important in these cases to watch for any sudden and premature suppression of pus-flow. Unless the secretion be quickly re-established, such stoppage is sure to be followed by pyæmia, osteomyelitis, or both. The latter may generally be prevented or forestalled by attention to this point. In spite of keeping up a free discharge, some pus found its way along the sheath of the rectus, and was evacuated in front of the thigh.

The other boy, Robert S——, aged six, operated on May 27th, got well without any bad symptom, and was walking about without support sooner than N——. But there is an important difference in the condition of the two boys. S—— was a restless, obstreperous fellow, whom no machinery could long keep in one position; but he always chose such postures as should keep the limb adducted. N—— was a quiet boy, and could be restrained, so that the limb was kept abducted. Now in the earlier stages of hip-disease, indeed in all pelvic postures, adduction means shortening, abduction lengthening. S——'s limb (adducted) was after cure two inches and a quarter short; N——'s (abducted), although more bone was removed, was barely three quarters of an inch short.

Mr. Barwell is adopting, in his after-treatment, even more abduction than he has formerly used, believing that he shall cause the limbs to appear of equal length.

In his last five cases of excision of the hip performed at Charing-cross Hospital during 1864-65, Mr. Barwell has lost one from exhaustion, and abscess opening into the rectum. One is walking about with support; three without support.—*Lancet*, May 12. 1866.

Novel Treatment of Gonorrhœa and Gleet.—There is probably no ailment amongst the less severe disorders incidental to mankind the treatment of which more frequently causes trouble and anxiety to the surgeon than does gonorrhœa. Under the influence of injections a patient will apparently completely recover, and, just as he is congratulating himself upon his good fortune, the recurrence of a slight discharge in the morning or after a little over-exertion brings him back to the surgeon with a long face and gloomy forebodings. Every one has met with such cases. Perhaps the unfortunate individual is engaged to be married, or he is about to start on a continental tour, and endless annoyance is created by this return of his ailment. We have frequently wondered that, amidst the numerous advances of our art in this day, some more effectual plan of treatment has not been devised for this condition. Injections of various kinds—chloride of zinc, nitrate of silver, acetate of lead—will all, there is no doubt, exert a powerful influence upon the inflamed membrane; but after their employment there is so often a tendency to recurrence of the malady that it is evident the great desideratum of an effectual cure is yet wanting.

We have been interested lately in observing a new process which is now being tried by Mr. Henry Thompson at University College Hospital, and which may possibly be found of much service. Believing that the imperfect action of injections depends upon the very short time that they are in contact with the mucous membrane, Mr. Thompson conceived the idea of applying the astringent in such a form as would enable it to remain for a much longer period in contact with the inflamed surface. Under his direction Messrs. Bell and Co. have constructed "soluble bougies," two or three inches in length, made of cocoa butter, containing the drug it is wished to apply. They are cast in moulds, are perfectly firm and smooth, and may be used in any length, but that named has been deemed the best. A soluble bougie is equal in size to about No. 8 or 9 of the catheter scale, and may be introduced (having been previously oiled) by the patient himself into the urethra, where the material gradually melts in the space of about ten minutes. The patient is directed to slip one of these bougies into the passage on going to bed.

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After trying many methods for retaining the bougie *in situ*, Mr. Thompson has adopted the following: A piece of adhesive plaster is cut, nearly an inch wide and five inches long. A piece of Taylor's stout lint, of the same size, is rolled up into a little pad and laid on the centre of the plaster, which is warmed, and applied along the lower surface and dorsum of the penis, the prepuce meanwhile being fully retracted. A second strip of plaster, half the width of the first, is then put closely around the glans penis transversely. The bougies are made to contain either a quarter of a grain of nitrate of silver, a grain of tannin, two-thirds of a grain of acetate of lead, or ten grains of nitrate of bismuth, as astringents; while others are sedative also, and contain two grains of opium, or two of belladonna. Other materials can, of course, be employed. By this plan Mr. Thompson has satisfied himself that the active agent is kept for several hours in contact with the urethral surface, and is, morever, necessarily squeezed into the lacunæ, which often, doubtless, escape being acted upon by injections. It is by many supposed that these lacunæ, from harbouring the discharge and escaping treatment, are the main cause of the persistence of gonorrhœa. However that may be, there would seem little doubt that this mode of treatment permits the effectual application of the astringent, and thus promises better results than can be attained by the transitory action of an injection. It is as yet too early to pronounce a decisive opinion of this process; but it is very ingenious, and we shall watch the results with interest.—*Lancet*, May 12, 1866.

CHOLERA.

Treatment of Cholera in the London Hospital.—This continues as unsettled and empirical as before stated. It is said in the *Med. Times and Gaz.* (Aug. 25th), that at the London Hospital Dr. Fraser is now ordering for his patients a mixture containing chlorate of potash and dilute hydrochloric acid in camphor mixture. Dr. Clarke has treated some of his new patients with the tincture of the sesquichloride of iron and quinia. Dr. Davies still gives calomel.

The same journal of a later date (Sept. 1), states that at the London Hospital the injection of fluids into the veins is still being tried in a few cases and in two the results have been favourable. The subcutaneous injection of water has been tried in a patient in collapse. The patient died. One patient recovered who was treated by draughts of warm water.

In the *Lancet* (Aug. 18th), it is stated that Dr. Fraser, in the London Hospital, "has been making a trial of the much-vaunted "Rubini" specific. This, as our readers may remember, consists of a highly concentrated solution of camphor in alcohol, the dose being from five to twenty minims, every five minutes, on sugar or in water. The solution was used in, perhaps, seven or eight cases. It was found, however, that the camphor was deposited and collected upon the tongue. As a result it clogged the mouth, and in one case of severe collapse, where it had been given in ten-minim doses every five minutes, it required to be removed with the handle of a spoon. Patients in collapse were not able to suck sugar, and the addition of water caused a precipitate of the camphor, which, if swallowed, was immediately rejected in a small, round, gummy mass. The patients in several instances begged that its use might be discontinued on account of the distress which it occasioned. In some cases it was tried every quarter or half hour, but always with the same result, the camphor being rejected by vomiting. As the remedy was found so impracticable it has been since discontinued.

Ice-Bag Treatment of Cholera.—W. W. Reade in a communication to the *Lancet* (Aug. 18th) states: "I see that the *Lancet's* correspondent from Southampton has already stated that the ice-bag treatment has been abandoned in the town, and that "impartial observers consider it worse than useless." It was tried here under Dr. Chapman's personal superintendence. He had six cases under his charge. Of these two died; and as he left the town without giving me instructions to pursue his treatment in the four other cases (one of whom was in a dying state)—indeed, without informing me of his intention to leave the town, I did not pursue his treatment, nor had I any desire to do so. The ice-bag was applied to the spine of one patient (Eliza A——) continuously for twenty-four hours, by his direction, although she did not cease to vomit at short intervals all that time, and although

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she repeatedly implored that it might be taken off. Dr. Chapman, who at first was going to cure cases in collapse with his ice-bag, *now* states that it must be applied in an early stage of the disease; but in this hospital we have been able to save all our patients in an early stage of the disease by means of remedies which are less troublesome and more humane."

—

Treatment of Cholera in the Hospitals in Paris during the Recent Outbreak.—This seems to have been as unsettled and empirical as on former outbreaks, according to the following account copied from the *Journal of Practical Medicine and Surgery*, Nov. 1865.

"The remedies prescribed for cholera in the civil hospitals of Paris differed but slightly from those administered in 1832, in 1849, and in 1853-54.

"In the spontaneous vomiting incidental to the first stage of the malady, or the emesis induced by stimulant beverages, seltzer-water or ice were prescribed, or ipecacuanha in 15 or 30 gr. doses, and sometimes a mustard poultice was applied over the stomach. In order to check obstinate diarrhœa, MM. Horteloup, Vigla, Barthe, and Hérard had recourse to bismuth, diascordiam, and enemas containing laudanum; sulphate of soda was also, but more sparingly, used as a means of checking the premonitory diarrhœa. Dr. Horteloup prescribed a kind of paste, consisting of five drachms of bismuth mixed with syrup, one-tenth of which was exhibited every two hours. At the hospital Saint-Antoine the following prescription, originally suggested by Aran, was found beneficial: ℞. Bismuthi trisnitratis; Diascordii (confect. opii). āā ℥j; Mist. acaciæ, ℥v.

"To be taken in teaspoonfuls at one or two hours interval.

"During the cold stage, tea and rum, acetate of ammonia, and the chartreuse elixir were frequently prescribed to induce reaction. M. Vigla did not wait until refrigeration had set in, but applied at once a blister over the epigastric region, exhibited tea and rum, and if this was rejected, immediately resorted to the following prescription, from which he had obtained good effects: ℞. Mist. acaciæ, ℥iv; Liq. ammon. acetatis, ℥ij; Tinct. anisi stellati, ℥j; Ætheris sulphurici, ♏xv.

"At the same time, and in order to check the diarrhœa, enemas were administered consisting of four ounces of water, ten drops of laudanum, and a drachm of extract of rhatany, until one was retained by the intestine. Cupping along the spine and mustard poultices were resorted to to relieve cramp.

"In the stage of algor M. Horteloup applied electricity, with Breton's apparatus, one conductor being placed in contact with the spine, and the other opposite the insertions of the diaphragm.

"M. Gubler, of Beaujon—the hospital most severely visited at the outbreak of the epidemic—at first prescribed, in the early stages of cholera, warm drinks, punch, tea and rum, wine, &c. But he soon discovered that this class of fluids generally defeated their own purpose, and increased the tendency to emesis. He replaced them by ice and cold drinks, and found that iced beer especially was well tolerated by the stomach, besides being more grateful to the patients. He, therefore, confined himself to this beverage, and also remarked that lime water acted most favourably in checking the vomiting. It was the remedy he has found most efficacious for the purpose. He also attempted the introduction of sedatives into the system by the hypodermic method; but the absorbents being paralyzed, this plan proved inefficacious.

"The *Gazette des Hôpitaux* speaks favourably of the following mixture, prescribed at La Charité by M. Parrot in the female ward: ℞. Chloroformi, ℥j; Syr. cinchonæ, ℥v; Mist. acaciæ, ℥iv.

"The dose is a tablespoonful every half hour at first, and the amount of chloroform exhibited is reduced in proportion to its effect in arresting the emesis, and the dose is taken at longer intervals. Strong wine was prescribed in order to facilitate and keep up the reaction. Friction was seldom resorted to, and the patient was merely warmed by the application of heated cloths. Ice and cold drinks were freely allowed as soon as reaction had appeared, and beef-tea was administered if the patient desired it.

"If spasmodic contraction persisted in the epigastric region, together with pain, M. Parrot had recourse to blisters, and often prescribed ipecacuanha as a means of arresting the vomiting.

"At the Hôtel-Dieu, the management of the stage of reaction varied. M. Barth, in

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order to avert secondary congestion, had recourse to depletion; M. Vigla prescribed bark and quinine, and M. Horteloup hot or iced coffee, according to the degree of irritability of the stomach. This gentleman applied, in addition, rubefacients to the nape of the neck, to the epigastric, or to the præcordial region, according to the tendency of congestion to the brain, heart, or stomach.

"The diet was carefully attended to. A couple of grains of quinine were taken before each meal, and beef-tea or soups were given at as early a period as possible, with wine and water, or even undiluted claret.

"The measures instituted at the Military Hospital of Gros-Caillou, by Mr. Worms, were of a more original character. In premonitory diarrhœa this practitioner exhibited every hour four ounces of sweetened decoction of salep root, with four, six, or eight drops of concentrated sulphuric acid. The patients were further directed to rinse their mouth with this fluid after each draught. Two or three glasses of the beverage in general check the diarrhœa, and a fourth dose is seldom required. Mr. Worms did not object to the simultaneous use of white wine or champagne, but strictly prohibited beer, brandy, or alkaline mineral waters.

"In confirmed cholera his practice was equally simple. The patient was left in complete repose. No frictions were prescribed unless the cramps were productive of much pain, and every half hour a glass of the lemonade above described was administered immediately after vomiting.

"Wine and ice were supplied at discretion.

"Mr. Worms remarked that the lemonade was the most efficacious remedy for diarrhœa, but that it seemed on the contrary to promote emesis. The persistency of the latter symptom was in general, in his opinion, a favourable augury of the final issue of the case.

"No novel features of treatment were supplied by private practice, nor by the communications forwarded to the medical press from the departments, or from abroad.

"It is unnecessary to advert to the preventive measures recommended by mere quacks, and the prophylactic treatment is generally based on the exhibition of laudanum, bismuth, the use of warm clothing, and chamomile tea flavoured with spirit or with peppermint.

"M. Jobert de Lamballe prescribed for diarrhœa, attended with pain, five or six pills a day, each containing one-sixth of a grain of extract of opium, and night and morning an enema of: ℞. Aquæ, ℥iijss; Amyli, ℥ij; Laudan. liq. Sydenhami, ♏x.

"If the diarrhœa was painless, he recommended half a drachm of the conf. opii, or a mixture containing gr. xv of extract of rhatany. He believed that the confection of opium was serviceable only when the diarrhœa was not accompanied by colic.

"The greatest benefit has been derived from the mixture of bismuth and confection of opium, described in the early part of the present article. In some instances M. Ricord's formula has been used with success, viz: ℞. Aquæ destill. ℥iv; Album. ovi, j; Syr. morph. acetatis, ℥j.

"To be taken in tablespoonfuls at intervals of one or two hours.

"In severe cholerine, M. Perrochet's prescription acted more promptly:—

"1. Exhibit every half hour, or every hour, according to the urgency of the case, a tablespoonful of the following mixture: ℞. Aq. lactucæ, ℥iij; — menth. pip., ℥iv; Extr. monesiæ, gr. xv; Syr. morphiæ acetatis, ℥j.

"2. Apply over the abdomen flannels impregnated with strongly camphorated oil.

"3. Frictions over the limbs twice in the course of an hour with camphorated liquor ammoniæ.

"4. Warm coverings, hot water bottles, &c.

"For children, Quesneville's bismuth paste is prescribed daily, one teaspoonful before each meal, or ten ounces of Sydenham's white decoction, with the addition of one or two drachms of bismuth.

"M. Guersant recommended for cholerine in children: ℞. Mist. acaciæ, ℥iv; Spirit. ætheris sulphur. ℥ss; Acidi sulphur. ♏viij.

"To be taken in teaspoonfuls at intervals of an hour.

"When in adults cholera reached the cold stage, stimulants and counter-irritation were the remedies most generally trusted to. Æther, syrup, or pearls of æther, liq. ammon acetatis, carbonate of ammonia, mustard poultices, blisters, turpentine stupes applied along the spine, mustard baths, wrapping up in woollen blankets, &c., were the elements of all the various sys-

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tems of treatment in daily use. Tea and rum were also exhibited in large quantities, but were frequently rejected by the stomach, and were, therefore, less reliable than stimulant mixtures administered in tea-spoonfuls, which were more easily retained if a piece of ice were given after each dose

"M. Gendrin prescribed half an ounce of spiritus Mindereri in four ounces of peppermint water, to which were added a drachm of sulphuric æther, and ten or twenty drops of laudanum. As soon as he found that the veins began to fill under the influence of the stimulant, he took from the arm a table-spoonful or more of blood, if that liquid was in a sufficiently fluid state to flow from the wound.

"It is surprising that liquid ammonia was not more freely used in this stage of the affection. A mistake which occurred in 1849 showed the great power of this remedial agent in a desperate case. A corporal of the Garde Mobile, who was cold and pulseless, was prescribed a mixture containing two drachms of the liquor ammoniæ acetatis. The apothecary, instead of the substance prescribed, used the liq. ammoniæ fortior. Two or three tablespoonfuls only of this extremely unpleasant compound were exhibited, but reaction set in, and the patient promptly recovered. In India, we are told, camphorated brandy is often forced down the patient's throat with equal success. The formula recommended by Noel, a physician who in the last century accompanied the French army in India, might be advantageously resorted to. The following is its composition, such as it is reproduced in the *Union Médicale:* ℞. Aq dest. melissæ, ℥iijss; Liq. ammoniæ fortioris, ℥ss; Ol. anisi, ♏x; Syr. corticis aurant., q.s.

"To be taken in tablespoonfuls every half hour.

"Dr. Carrière, physician to the Comte de Chambord, forwarded to the same journal a formula of an analogous description, viz: ℞. Aq. destill., ℥iijss; Liq. ammon., gr. xv.—xxx; Syrupi, ℥j; Tinct. corticis aurant., ℥j.

"This preparation should be exhibited in spoonfuls at intervals varying according to the requirements of each case, and it acts both as a stimulant of the nervous system and as a fluidifier of the blood."

—

Saline Injections in Cholera.—Mr. Colson, physician at the Hospital Beauvais, read a paper at the Academy on Tuesday last, containing an account of his own experiments on the subject. The liquid he used was composed of 1250 parts of distilled water, twelve parts of muriate of soda, eight parts of lactate of soda, and three parts of phosphate of soda, at a temperature of 42° centigrade. This injection into the median basilic vein was followed in many cases by a very rapid improvement in the pulse and appearance of the patient, but unfortunately this improvement was not permanent, and the patients soon collapsed into the same, or a worse state than before. In one case the injection was repeated five times with success. The general opinion of the Academy seemed to be against this mode of treatment, for which, by-the-by, M. Colson does not claim the merit of novelty.—*Lancet*, Sept. 1, 1866.

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Progress of Cholera.—In England the cholera is everywhere abating. In *London* the number of deaths from cholera and diarrhœa was as follows:—

	Cholera.	Diarrhœa.
Week ending Aug. 4,	1053	354
" " " 11,	781	264
" " " 18,	455	194
Sept. 1,	198	128

In *Liverpool*, during the month of August the deaths from diarrhœa and cholera were as follows:—

	Diarrhœa.	Cholera.
Week ending Aug. 4,	88	101
" " " 11,	75	126
" " " 18,	63	157
" " " 25,	69	146

In *Paris* there has been recently an increase in the number of cases.

In various parts of *Bohemia* the cholera continues its ravages.

At *Brüme* 1100 Prussian soldiers are said to have died of the disease within the last two months.

At *Genoa* recent accounts state the disease to be on the increase.

At *Pesth* it prevails to such an extent that the Empress of Hungary has left the place.

At *Breslau* 2000 deaths from cholera have taken place in the course of a few weeks.

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MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Progress of Cholera. — Everywhere in the United States cholera is abating. The following table shows the mortality in Philadelphia for the past month from cholera and bowel affections:—

1866.	Mortality in Philadelphia from						
	Cholera Infantum.	Diarrhœa.	Dysentery.	Cholera Morbus.	Cholera.	Total Bowel Affections.	Total Mortality from all diseases.
Week ending Sept. 1st,	49	17	14	6	58	144	430
" " " 8,	21	4	11	9	41	86	358
" " " 15,	29	8	10	10	38	95	331
" " " 22,	15	4	11	6	35	71	313
" " " 29,	14	10	9	12	45	90	311

In *New York* the deaths were as follows:—

	Cholera.	Cholera Morbus.	Diarrhœal Diseases.	Cholera Infantum.	Total Mortality.
Week ending September 15,	32	16	83	51	589
" " " 22,	49	11	76	55	560

At *St. Louis* the deaths from cholera during the week ending Sept. 14th, was 272.

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Memorandum.—For the information of persons desirous of entering the Medical Corps of the Army, we publish the following extracts from laws of the United States, act of Congress, approved July, 1866, sent to us by the Surgeon General:—

Sec. 17. *And be it further enacted*, That the Medical Department of the Army shall hereafter consist of one Surgeon General. * * One Assistant Surgeon General. * * One Chief Medical Purveyor and four Assistant Medical Purveyors. * * Sixty Surgeons, with the rank, pay and emoluments of Majors of Cavalry. One hundred and fifty Assistant Surgeons, with the rank, pay and emoluments of First Lieutenants of Cavalry, for the first three years service, and with the rank, pay and emoluments of Captains of Cavalry after three years service. * * * and all the original vacancies in the grade of Assistant Surgeons shall be filled by selection by examination.

The number of vacancies now existing in the Medical Corps of the U. S. Army, is sixty, forty-six of which are original vacancies created by the act of Congress approved July 28, 1866, as quoted above.

All candidates for appointment in the Medical Corps must apply to the Surgeon General, U. S. Army, for an invitation to appear before the Medical Examining Board. The application must be in the handwriting of the candidate, stating age and birthplace, and be accompanied by testimonials from professors of the college in which he graduated, or from other physicians of good repute. If the candidate has been in the medical service of the army during the war, the fact should be stated, together with his former rank, and time and place of service, and testimonials as to qualifications and character from the officers with whom he has served should also be forwarded.

Candidates must be graduates of some regular Medical College, proof of which must be submitted to the Board before examination.

The morals, habits, and physical and mental qualifications of each candidate will be subjects for careful examination by the Board, and favourable report will not be made in any case in which there is a reasonable doubt.

The following will be the general plan for examination.

1. A short essay, either autobiographical or upon some professional subject—to be indicated by the Board.

2. Physical examination. This will be rigid, and each candidate will be required to certify "*that he labours under no mental or physical infirmity, nor disability of any*

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kind, which can in any way interfere with the most efficient discharge of his duties in any climate."

3. Examination as to general aptitude and education.

4. Written examination on anatomy, physiology, hygiene, surgery and practice of medicine.

5. Oral examination on each of the above mentioned subjects, and also on obstetrics, general pathology, chemistry, toxicology, medical jurisprudence and materia medica.

6. Clinical examination, medical and surgical, at a hospital.

7. Performance of surgical operations on the cadaver.

The Board will deviate from this general plan whenever necessary, in such manner as they deem best to secure the interests of the service.

The Board will report the merits of the candidates in the several branches of the examination, and their relative merit in the whole, according to which, if vacancies exist within two years thereafter, they will receive appointments and take rank in the Medical Corps.

An applicant failing at one examination, may be allowed a second after one year, but not a third.

No allowance will be made for the expenses of persons undergoing examination, as this is an indispensable prerequisite to appointment, but those who are approved and receive appointments, will be entitled to transportation on their obeying their first order.

The pay and emoluments of surgeons and assistant surgeons are shown by the following table:—

	Pay per month.	No. of rations per day.	Amount of rations per month.	SERVANTS.					Aggregate amount receivable.	FORAGE FURNISHED FOR HORSES WHEN ACTUALLY KEPT	
				No. for which pay is allowed.	Am't allowed for pay per month.	Am't allowed for clothing per m'th.	Am't allowed for rations per m'th.	Total amount allowed per m'th.		In time of war.	In time of peace.
Assistant Surgeon, under three years' service .	$53 33	4	$36	1	$16	$6 50	$9	$31 50	$120 83	2	2
Assistant Surgeon, over three years' service .	70 00	4	36	1	16	6 50	9	31 50	137 50	3	2
Assistant Surgeon, over ten years' service . .	70 00	8	72	1	16	6 50	9	31 50	175 50	3	2
Surgeon, under ten years' service	80 00	4	36	2	32	13 00	18	63 00	179 00	4	2
Surgeons, over ten years' service	80 00	8	72	2	32	13 00	18	63 00	215 00	4	2

In addition to the above, Surgeons and Assistant Surgeons are allowed an additional ration per day, after the termination of every five years' service.

Quarters and fuel, or commutation therefor, are also furnished to Medical Officers.

JOS. K. BARNES,
Surgeon General, U. S. A.

SURGEON GENERAL'S OFFICE, Aug. 9, 1866.

—

Insufflation of Medicated Powders in Gleet.—Dr. JOHN J. O'REILLY writes to us under date Louisville, Sept. 12th, 1866, as follows:—

In the *Medical News* for Sept., 1866, I noticed an article on insufflation of medicated powders in gleet, and also an account of the presentation of an instrument for that purpose by Mr. Ricord to the Medical Society of Paris. If the application of such powders by such an instrument as you state deserves any credit, I think there is no necessity for giving it to European surgeons.

I used the same instrument, and made it myself, three years ago, in the U. S. A. Venereal Hospital, at Nashville, Tenn. Having charge of the venereal wards, I tried for some time to apply medicated powders to the mucous membrane of the urethra. After trying various means, I at last attached an open catheter (or a catheter open at both ends) to a common syringe, making an opening in the body of the syringe near the attachment of the catheter, so that when the piston of the syringe was drawn out the powder would not follow into the vaccum. This I found to do very

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well. After using it for some time, I tried to simplify it by fitting a piston to a plain open catheter. This I also found answered its purpose, but still each instrument was found to be preferable under certain circumstances. The simple catheter and piston instrument is better for those cases in which by introducing the catheter we can ascertain with certainty that the inflammation is confined to a limited portion of the mucous membrane of the urethra; but where we suspect chronic congestion with slight irritability, the catheter attached to the syringe is to be preferred: for by it we can spread the powder over a greater surface and in much smaller quantities.

This instrument I used in Nashville at time stated in presence of Surg. Wm. M. Chambers, U. S. V., and Surg. L. Beckwith, 38th Indiana Infantry. Surg. Chambers is now in Charlestown, Ill., and Surg. Beckwith at Jeffersonville, Ind.

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Cryptogamous Origin of Intermittent Fevers.—The editors of the *Atlanta Medical Journal* state that a friend led by the experiments of Dr. Salisbury, is investigating this subject, and will probably communicate something valuable in regard to it.

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Ovariotomy in California.—Dr. Joseph Wythe, late Surgeon U. S. Vols., records (*Pacific Med. and Surg. Journal*, August, 1866) a case of ovariotomy successfully performed by him, June 14th last, in San Francisco.

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Medical Department of the University of Nashville.—Dr. Joseph Jones has been appointed Professor of Pathology in this institution.

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Atlanta Medical College.—At the annual commencement on the 31st August last, the degree of M. D. was conferred on 29 candidates.

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The Physician's Visiting List, Diary and Book of Engagements for 1867.—Messrs. Lindsay & Blakiston have issued this highly useful volume.

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Obituary Record.—Died, in Boston, Sept. 15th, 1866, of cholera, after an illness of only a few hours, Augustus A. Gould, M. D., a very eminent physician and accomplished naturalist, and late president of the Massachusetts Medical Society.

FOREIGN INTELLIGENCE.

Cholera Hospitals.—The following is the substance of a report drawn up by the Council of the Epidemiological Society, and is of unusual interest at the present time.

I. There appears to be a general concurrence of opinion, expressed or implied, that under certain circumstances and conditions cholera is liable to be communicated from person to person; the liability being usually in proportion to the crowding of many persons together, the defective ventilation of apartments, and the neglect of thorough cleanliness in respect of person or abode.

In addition to the possible risk of the extension of the disease from this source, the alarming character of the symptoms, and the necessity for unremitting attendance upon the sufferers, are calculated to produce terror in the minds of spectators, and thus strongly predispose them to be attacked during an epidemic season.

For these reasons the opinion is very generally held that it is unadvisable that cholera patients should be admitted into wards which are occupied by other sick inmates.

The experience, however, of some of the metropolitan hospitals in past epidemics shows that. due attention being paid to sanitary arrangements, cholera patients may be received, in limited numbers, into the general wards without injurious results either in the other sick or to the ordinary attendants.

No instances have been referred to, in the evidence before the Council, in the opposite direction—viz., of the disease having spread to the other inmates of a ward in a well-regulated hospital.

II. With respect to the second query, the experience of the metropolitan physicians who have favoured the Council with replies appear to be that, with proper precautions, cholera patients may be admitted into separate wards in general hospitals or infirmaries without undue risk of the extension of the malady to the other inmates of the institution.

This opinion is shared by all the respondents who have had experience of the disease in tropical countries.

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It would have been very desirable to have been informed of the results on this point in some of the military and naval hospitals in this country and also abroad.

The precautions above referred to are these; (*a*) Ample space to each patient; not less than 1500 or 2000 cubic feet. (*b*) Thorough ventilation of the wards at all times, both night and day. (*c*) Immediate disinfection and removal of the excreta, soiled linen, &c. (*d*) A separate staff of nurses.

III. The reply to the third query depends much on the opinion formed in respect of the two former questions If cholera patients are not admissible into general hospitals or infirmaries under any conditions, it is obvious that some extemporized and special arrangements must be provided for the reception of the destitute when attacked.

But even when they are admitted, there are various circumstances in which it will be advisable or necessary that special hospitals should be provided, *e. g.* (*a*) When general hospitals or infirmaries are at a distance from the seat of the actual or apprehended outbreak. (*b*) When there is a want of accommodation, with due regard to the ordinary patients, or when the accommodation is unsuitable or objectionable.

In selecting the site of special hospitals, the following points require to be attended to: (*a*) Nearness, if possible, to the chief seat or seats of the outbreak. It is important that cholera patients should not have to be carried far. There is, moreover, great risk in moving patients in, or verging to, the state of collapse. (*b*) Airiness, and freedom from intrinsic or contiguous sources of atmospheric pollution. (*c*) A dry soil and raised situations are, of course, to be always preferred to a low and damp one.

Amid the crowded districts of a large town, it appears preferable that several small and suitable hospitals, or "houses of recovery," should, if possible, be established in different localities, rather than one or two large hospitals for the reception of a large number of cholera patients.

The remark that the presence of an experienced staff of medical officers in general hospitals, and the existence of more complete appliances of every sort in them than is likely to be provided in extemporized special hospitals for the treatment of cholera patients, are marked advantages in favour of the former, deserve consideration.

The general conclusions of the Council are these:—

1. That it is, on the whole, unadvisable that cholera patients be admitted into the ordinary wards of general hospitals or infirmaries.

2. That cholera patients can be safely admitted into special wards in general hospitals, due precautions being taken; and therefore that it is desirable, as an important means of providing accommodation for the destitute when attacked, that the authorities of these institutions grant this valuable benefit to the public.

3. That it will be often necessary that special hospitals be provided in aid or in lieu of general hospitals and infirmaries.

In addition to these arrangements for the accommodation of the poor when attacked with cholera, the Council would recommend that places of refuge be provided for the temporary sojourn of some of the unattacked inmates of unwholesome dwellings and localities where the disease has appeared.—*Lancet*, July 28, 1866.

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Trichinæ.—Dr. FIEDLER says that the trichinæ may find their way into the muscles through the current of blood, is proved by the facts: that he has frequently found trichinæ in coagula of the right auricle and ventricle; and that at times, in the most distant muscles, trichinæ are found not exceeding in size those found in the abdomen.

—

Auenbrugger.—On the 4th of June last, the Vienna Medical Faculty celebrated their sixtieth annual meeting. Dr. Moritz Frey delivered an address "On the Life and Writings of Leopold Auenbrugger of Auenburg." The progress of modern medicine, he said, was in part due to Auenbrugger, whose discovery of percussion gave it a physical direction. Auenbrugger was an Austrian of whom we may well be proud, and a member of this Society; but sad is it to say that no memorial graces his last resting place; and in the Hall of the Medical Faculty, neither monument, picture, nor inscription. *Nemo propheta in patriâ* is nowhere truer than in Germany; and Auenbrugger lived to see that his immortal discovery was first recognized in France. He was born at Gratz, in November, 1722, the son of a flourishing inkeeper there. He studied medicine in Vienna, and was received into the Faculty in 1757. He then became physician to the Spanish hospital erected there by Charles VI. for poor sick

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Spaniards, etc. There he laboured hard. According to Stoll, he had great experience in paracentesis thoracis. He died in 1809. None of his cotemporaries, with the exception of Stoll, paid any attention to his discovery. After Stoll, it was forgotten in Germany, and remained so for thirty years, until Corvisart, in 1808, again brought it into notice. The *Inventum Novum* was translated for the first time into German in 1843, by Skoda. The best accounts of Auenbrugger's life have been given by Professors Olan of Gratz, and Lebert of Breslau.—*British Medical Journal*, July 21, 1866.

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Italian Registration Returns.—Amidst the bustle of war the Italian Government has found leisure to publish a very useful document—the Population Returns of the Kingdom of Italy for the Year 1864—a quarto volume of between 500 and 600 pages, which enters into a detailed exposition of the vital statistics of every portion of the united kingdom. The entire population of this amounted in 1864 to 22,291,180 inhabitants. 177,282 *marriages* were solemnized during the year; and on examining into the condition of the contracting parties in this respect, it is found that, while among the men there were 16 widowers to 84 bachelors per cent., among the women there were but 10 widows to 90 spinsters. In frequency the marriages which take place in the country (8.28 per 1000 inhabitants) exceed those that take place in towns (7.61), the mean (8 02) being 1 per cent. less than in the year 1863. Italy, with 1 marriage for 122 inhabitants, exceeds in this respect France, Spain, and Norway, in which countries there is a marriage in every 130; is nearest England, with 1 marriage for 125, and below Saxony, with 1 to 117, and Russia with 1 to 95 inhabitants. The mean duration of marriages was found to be 21 years 8 months—*i. e.*, 21 years and 3 months among the rural populations, and 22 and 23 years in the civic populations. *Births.*—There were 845,454 living children born, two-thirds in the rural and one-third in civic districts, the males exceeding the females by 26,232 There were 802,376 legitimate, and 43,078 natural births—*i. e.*, 5.10 per cent.—the highest number (7.41) being found in Calabria, and the lowest (2.25) in Sardinia. In this matter Italy is better, with her 1 illegitimate birth to 18.66 legitimate births, than any other country, except Holland, where they are 1 to 22. Taken together, there took place 3.95 births for every inhabitant, it being found in Italy, as elsewhere, that a greater number of births took place in the regions in which the mortality was greatest. The legitimate births occurred in proportion of 4.59 for every married couple, Sicily exhibiting the greatest amount of fecundity (5 32). In 1864 there were also 14,209 (8269 male, 5940 female) children born dead, giving 16.81 born dead per 1000 births, the numbers being, however, 22.11 per 1000 in the urban, and only 14.65 in the rural districts. The *deaths* in 1864 amounted to 659,063, being a diminution of 4.03 per cent. of those of 1863. The rate of mortality to the population was 2.98 per cent.—3.17 in the towns, and 2 89 in the country. The deaths of males to those of females were as 107 to 100. The relation of the deaths to the births descended from 80 per cent. in 1863 to 78 in 1864. Of the deaths 54 per cent. took place under 15 years of age, 12 per cent. in nubile adults, 21 per cent. in married persons, and 13 per cent. among widowed persons. Deaths from violence are returned at 6827 (5475 male, 1348 female)—viz: 4082 from accident, 646 suicide, 5 duelling, 2006 homicide, and 88 execution. The *suicides* amounted to 2.96 per 100,000 inhabitants, Spain being the only country having a less number than Italy, and most countries having a far higher proportion. The 646 suicides took place among 515 men and 130 women. More than a fourth of the suicides (174) preferred drowning, 142 firearms, 99 hanging, 9 asphyxia, and 42 poison. The greater number of suicides (202) occurred in summer, and especially in the months of July and August.—*Med. Times and Gazette*, Aug. 18, 1866.

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New Mode of Preserving Meat.—At a recent meeting of the Pharmaceutical Society, at Edinburgh, Mr. J. Mackay brought before the meeting a new method of preserving beef, mutton, and other animal substances used for food, in a perfectly fresh condition, free from salt or any other ingredient likely to interfere with the flavour or condition of the material so preserved. Mr. Mackay stated that the discovery was due to Dr. Redwood. In the course of last summer Dr. Redwood com-

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menced a series of experiments with paraffin. The following peculiarities of this substance were referred to, viz., its solidity, whiteness, tastelessness, and entire freedom from smell. At 130° it becomes fluid, and may be raised several hundred degrees above 212° without altering its condition. It was found that animal substances, when immersed in a bath of paraffin heated to about 300°, rapidly lost their air and water, leaving the juice of the meat to be absorbed by the joint under operation. According to the thickness of the mass of meat, the time of its immersion is increased or diminished. By this process the germs of destruction are found to be quite destroyed, very much on the same principle that the various articles of food are prepared in hermetically sealed vessels, or the calf-foot jelly bottled and kept in a perfect state of preservation When the meat has thus been allowed to remain a sufficient length of time in the highly-heated paraffin, it is removed and immediately dipped into a bath containing the same material, at a lower temperature; and after two or three drippings the process is complete, and the substances thus preserved are ready either for home or foreign consumption. Already various samples have been prepared, and after three months' keeping, have been cooked and found perfectly sweet, and free from any taint whatever.—*British Medical Journal*, June 9, 1866.

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Value of Sewage.—The Reclamation Company, now actively engaged on the north side of the Thames, has already tested the value of the metropolitan sewage, and contemplates its regular and systematic utilization on a farm which the company is about to purchase.

We give the following details as the result of its first labours, which, whether viewed in a sanitary or commercial light, we take to be of the highest importance. Early in April last a plot of waste land at Barking Creek, devoid of surface soil, was covered with common sand brought from Mappling, near Shoeburyness, to the extent of two feet thick, on which was sown grass seed. The surface was then well irrigated with ordinary London sewage from the northern outfall. This has been repeated once or twice. The effects of this *manufacture of green meat*—for such, indeed, it may be most justly considered—has been the production of *three crops*: one cut in June and July, at the rate of sixteen tons per acre; a second, of eight tons; and a third now growing, and almost ready for the scythe! This illustration of the value of what we have for generations cast into our rivers as waste almost surpasses belief, and, at any rate, ought to engage the serious attention, as it is now doing, of all practical economists.—*Lancet*, September 8, 1866.

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Reproduction of the Aphides.—One of the most singular phenomena in comparative physiology is the method of reproduction of these curious but common insects. Successive generations are produced without any sexual copulation, or, indeed, without any generative system. Such, at least, has been the theory universally accepted till within the last month or so. In Professor Huxley's fine memoir the author attempted to prove that the reproduction of the aphides is simply a process of budding, like that of the hydra, and to which M. Quatrefages gives the name of "geneagenesis." Professor Owen, who thought the male sexual influence was transmitted from one generation to another and higher, called the process "parthenogenesis," or virginal production. But now it appears, from the recent investigations of M. Balbiana, that the so-called virginal or asexual aphides are true hemaphrodites; and thus the mystery is solved. The conclusion is a very startling one; but since M. Balbiani is a naturalist well known for his elaborate researches amongst the lower animals, his explanation must be accepted until either Professor Huxley or Professor Owen comes forward and refutes it.—*Lancet*, July 21, 1866.

—

Low Forms of Life: Vibriones, Bacterium, and Leptothrix.—In the *Archiv für Mikroskopische Anatomie*, April, 1866, is a valuable essay on Leptothrix-swarms and their relation to Vibriones, by Ernest Hallier. The author traces the relation of some of the vibrio forms to Leptothrix and the more developed forms of mould, and he arranges them under the following heads: 1. Mould series, including *Penicillium*, or brush mould; *Mucor*, or head mould; and *Oidium*, or jointed plants. The first occurs on the surface of liquids, the second on substances which are pretty dry, and the third on substances which are putrescent

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and pap-like in consistence. 2. Achorion series, which arises from the germination of the spores of brush mould, *Penicillium*, and gives rise to *Oidium*. 3. Leptothrix series, producing the *Leptothrix buccalis*. 4. Leptothrix-yeast, made up of the broken fragments of mycelium that have fallen into the fluid from the surface and from swarms, giving rise to (*a*) Penicillium-yeast, which is roundish, refracts slightly, and has a large nucleus; (*b*) Mucor-yeast, which is globular, highly refracting, and finely grained. 5. Torula-yeast, which is produced from the germination of Penicillium spores in alcoholic fermentation. 6. Jointed-yeasts, which take origin in acid and ammoniacal fermentations from the conidia of Penicillium or Mucor. 7. Acrospore-yeasts, or *Trichophyton tonsurans*, developing itself from Penicillium spores in connection with the development of oily matter (oil fermentation). Hallier thus confirms the opinion of some writers that the fungi found upon and in the human system belong to one genus. Many of the so-called vibrios and bacteridia are consequently the early stages of ordinary moulds developing out different mature forms, according to the soil which they fall upon.—*Med. Times and Gazette*, July 7, 1866.

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The Jaw from the Trou de la Naulette.—A new puzzle has been found for the ethnologists and anthropologists in the shape of a lower jaw from one of the Belgian bone-caves. We have been favoured with a sight of a cast of this bone of contention, and we will endeavour to describe it for the benefit of our readers. In the first place it is only a fragment of a jaw, but it presents all the essential parts for specific diagnosis. It consists of about three parts of the body of the bone and a small portion of the left ascending ramus. The teeth are wanting, but the alveoli are all in remarkably good condition. From the full development of the sockets and the size of the bone, it is evident that it belonged to an adult. The bone is of considerable thickness, the symphysial portion being much thicker than in ordinary European specimens. The points of agreement with human structure are the following: The alveoli describe a parabolic curve; the molars are of large size compared with the premolars; there is no diastema between the canine and the contiguous teeth; the lower border of the bone presents the usual human characteristic in its perfect curve. The following are the differences between this bone and that of an ordinary European: In the first place there is a total absence of chin. The anterior symphysial surface is slightly sloped backwards. The posterior symphysial surface projects further and more abruptly backwards than in the European or in any other human jaw we have seen. There is an absence of the tubercles for the insertion of genio-hyoglossi. The alveolus for the canine shows that that tooth must have been of larger size than in the typical human subject. Of the three true molar teeth, the third or posterior molar was decidedly the largest, and had an implantation by three fangs. The first and second molars were of ordinary size, and were implanted by two fangs. In several of these respects the jaw may be matched amongst Australian specimens, but it presents wide differences from the jaws of Western Europe of the present period. In the following points it exhibits decided pithecoid analogies—the large size of the third molar and canine teeth; the abrupt projection backwards of the posterior symphysial surface; the great thickness of the anterior portion of the bone, and the entire absence of mental eminence. The bone was found by Dr. Edward Dupont in the cavern of La Naulette, on the banks of the Lesse River, in a perfectly stratified deposit of sandy clay, under two layers of stalagmite, at a depth of three and a-half metres (about 11 feet 4 inches) below the surface. In close contiguity with this jaw, and under similar conditions, were found an upper incisor and canine, presumably human, an ulna, certainly human, a piece of reindeer bone presenting a circular perforation made by some sharp instrument, and numerous remains of Elephas primigenius, Rhinoceros tichorhinus, and Hyæna spelæa. The strata were perfectly undisturbed. We will not speculate upon the history of this remarkable specimen. Human we believe it to be, but of a type of humanity far inferior to any white race now existing. Were the supposition tenable that it is the bone of an ape, we should feel inclined to attribute to it the dignity of "the missing link." We hear that the Curator of the Anthropological Society is preparing a memoir on the subject.—*Med. Times and Gazette*, Aug. 18th, 1866.

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The Diornis.—The *Sidney Mail* states that remains of this extinct bird have been found in good preservation at some gold diggings near Nelson. The skull, which is very perfect, measured two feet in circumference. The bones of this gigantic bird had some gelatinous portions still attached to them, so that they could not have been very long inhumed.

—

Desecration of London Graveyards.—The following statement, which we extract from an editorial in the *Medical Times and Gazette*, June 30, 1866, should be a lesson to us in this country as to the horrors resulting from allowing the dead to be interred within the limits of large cities. We have repeatedly pointed out the dangers to the living from disease engendered by this cause, and and an additional argument may be drawn from the following recital of its demoralizing tendencies, which must shock the sensibility of every one having any regard for the loved ones they have lost, or who even possess an ordinary sense of decency:—

"Our population want lessons in decency, in gentleness, and reverence. We want them to respect humanity in all forms, even the lowest; and we believe that people who are brutal to the dead will be so to the living likewise. If we wanted to make a labouring man a drunkard, a wife beater, one who would not honour his aged parents, nor take care of his helpless children, we should set him to work upon digging up a closely packed graveyard and "fortify him with liquors" to enable him to go through the degrading and noisome task. The Rev. Mr. Arrowsmith, writing to the *Times* on the digging up of the St. Giles's Cemetery, says:—

"'When, late in the evening of the 13th inst., I advised you on this subject, about a dozen, or perhaps a score, of bodies had been exhumed; it was the uppermost tier of a huge pile of dead. By ten o'clock next morning I should suppose that the remains of at least fifty corpses had been tossed together. The miners had struck upon a rich vein of dead men. Shells of coffins packed like hat boxes, with a thin layer of earth between, cropped out all round; cavities where heads had lain were coated and fringed with bushy hair, and a treacly ooze was sobbing from the rifts in the broken coffins. Even the strong stomached, case-hardened navvy was softened and sickened. It became evident that, on sanitary grounds alone, no time should be lost, for although fortified with liquors, the men could not be expected to sustain the nauseous stench without imminent risk to health, and the whole neighbourhood might be involved, as the surrounding air to a considerable distance was rapidly becoming tainted. My curate at once went in quest of the officers of health, Drs. Hillier and Buchanan, who, upon examination of the spot, in their turn hastened to find the solicitor of the rector of St. Giles. That gentleman, not without some pressure, consented to accompany them to seek an interview with the Midland Company's solicitor, who was hardly prevailed upon to issue an order for the stoppage of the disinterment.'

"We ought to do honour to Mr. Arrowsmith for his efforts to check this desecration, which is, to tell the truth, no credit to the Church of England. Whether we think of the solemn act of Episcopal consecration by which ground is set apart for ever for the repose of the mortal remains of the faithful, or at the enormous incomes derived from burial fees in times past, or at the confessed abuses and covetousness which were the shame of all burial-grounds within living memory, we should have expected the Bishop of London and the clergy of St. Pancras to have been foremost in opposing such a traffic in men's bones.

"It is well known that every burial-ground of our old London churches has been filled over and over again, and that it would be difficult to find a yard or a foot of soil in any of them, to a considerable depth below the surface, which is not made up of human remains. From century to century, from year to year, the number of the dead had increased with the increasing population, and yet our churchyards were still compelled to make room for more, until the Legislature some few years ago interfered and closed them.

"To the almost compulsory desecration of removing remains to make room for other burials, succeeded another phase of desecration—the conversion of the abodes of death to other uses. This is the special subject of our present inquiry. We must premise, however, that such conversion of the metropolitan graveyards has been going on for centuries, though scarcely in so indecent a form, and many a block of build-

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ings, many a thoroughfare and street, now stand or pass over the graves of the mouldering dead.

"The burial grounds of St. Giles's and Old St. Pancras are now the scene of wholesale desecration. The Midland Railway Extension was empowered by Act of Parliament to make way as it liked, and, of course, the question was to do so as cheaply as possible. Two courses were open—either to avoid the churchyards and go through the property of the living, at the usual great cost of compensation, or to go through the property of the dead at a comparatively much smaller figure.

"For the round sum of £20,000 the Vestry of the parish conceded the right of desecration, and the works are now in operation—with rather alarming prospects, however, for the Company.

"A few days ago the navvies turned up some four or five hundred remains at the corner of St. Giles's burial ground; and on Thursday last delved into another vein of decaying mortality, in what was formerly a part of Old St. Pancras Churchyard. Visiting the scene of desecration, we noticed that one of the skulls turned up exhibited not only remarkable proportions, as though indicative of some extraordinary physical and mental peculiarity, but showed on the left side of the forehead what appeared to be the clean perforation of a bullet, evidently fired from above. The frontal bone was of extraordinary thickness, and those of the other parts of the body corresponded to the large development of the skull.

"The part of the ground where these human remains were found had been closed to burials ever since 1792, when the Vestry of the day felt compelled to purchase a portion of an adjoining field to extend their burial ground.

"Now, within five years after making this purchase of fresh ground, it was deemed expedient to build a house for the sexton. The question then arose, where was it to be built? On the new ground or on the closed churchyard with its thousand thousand graves? Cupidity decided that it should be built over the graves, and this was accordingly done, as made evident by the recent exhumation. From being the sexton's house, the premises passed into other occupation, and finally formed part of Bessemer's manufactory, through which the Midland Extension is proceeding.

"The formidable nature of the dilemma into which the railway company has fallen appears when we state that the design is not only to construct a railway over these burial grounds—and already the great beams are fixed over many a venerable tomb—but to *tunnel* them at the depth of ten feet below the surface! Imagine the tunnelling of a burial ground! Surely it must have been known that many a family grave is sunk from eighteen to twenty feet below the surface, and that at the depth of ten feet is precisely the average level where they will have to bore through a festering mass of decomposing humanity!

"We need not state that considerable excitement exists on all sides, and that the relatives of the dead reposing in these ancient burial places are making anxious inquiries respecting the fate of the cherished remains, hitherto respected."

—

Edinburgh Medical Journal.—Dr. Rutherford Haldane has resigned the editorship of this journal, and is succeeded by Dr. Saunders.

—

Bone setter convicted of Manslaughter.—At the late Norfolk assizes a man named Bennett, who, it appears, enjoys a considerable local reputation as a bone-setter, was convicted of the manslaughter of an unfortunate man who had consulted him for an injury to the shoulder. Bennett, following the almost invariable rule of his fraternity, pronounced the bone out of place, and proceeded to employ several men to pull at the arm, with a view to reduction. Reduction being impossible, from the simple reason that the bone was not dislocated, the assistants' efforts were redoubled by the prisoner's direction, and resulted in laceration of the pectoral muscles and rupture of the axillary vessels and nerves, and the patient's death the same night. Even a country jury could hardly be persuaded that this result evinced that competent knowledge of surgical matters which has served so often to save offending quacks from the grasp of the law, and the bone-setter was condemned to pay a fine of £50 or to go to prison for six months. We are glad to note that the presiding judge remarked upon the "extreme moderation" which characterized the evidence of the professional witnesses.—*Lancet*, July 28, 1866.

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CLINICAL LECTURE.

Clinical Lecture on Addison's Disease. By EDWARD HEADLAM GREENHOW, M. D., F. R. C. P., Assistant Physician to the Middlesex Hospital. (Continued from p. 177.)

As the case upon which I have dwelt in the former part of this lecture is still under observation, and I can therefore only speak of it as Addison's disease on the assumption (of the truth of which, however, I entertain no doubt) that the diagnosis is correct, I must now, in order to place the subject fully before you, give you the details of Dr. Thompson's fatal case, which he has kindly placed at my disposal, and of which Dr. Cayley has made a thorough *post-mortem* examination.

M. D., aged 55, labourer, was admitted into Hertford Ward, under Dr. Thompson's care, on the 6th of last month. He had been strong and hearty until about three months before his admission. His illness began without any definite symptoms beyond gradual loss of strength, to such an extent that he could scarcely stand, and was compelled to give up work, and about Christmas to leave off going out, even for a short walk in front of his house. Besides the great debility, he by this time suffered also from breathlessness on exertion, nausea, frequent vomiting, and pain at the epigastrium.

On admission, his complexion was dark, but less so than that of the patient whose case I have already described. His body generally had only a faint brownish tinge; but the penis and scrotum were of a very dark blackish brown hue, as were likewise the cicatrices of some burns received in early life upon the left arm and upon the inner aspect of the right elbow. I should mention, however, that the discoloration was limited to the less deeply injured parts,

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and that, in the midst of the dark patch on the inside of the right elbow, was a small, well-defined, glistening, perfectly white cicatrix, about the size of a pea, where the burn had destroyed the deeper layers of the skin. On the back, also, were several cicatrices, some of which were discoloured, while the deeper ones remained of normal hue. The cicatrices of buboes in each groin were stained of a deep brown colour. On the upper surface of the tongue, near its edge on both sides, were several brownish-purple stains, with well defined margins, perfectly smooth, and neither elevated above the surrounding parts nor differing from them in hardness. The lips and buccal mucous membrane also presented distinct brown stains.

As regards constitutional symptoms, the pulse was almost steadily 60, very feeble and compressible, and, for the first week, the heart sounds were free from roughness. The respiration was feeble; and slight rhonchus and sibilus, with a few moist sounds, were heard on both sides of the chest. The percussion-resonance was slightly deficient in the upper part of the chest, particularly below the right clavicle; but there was nothing to indicate active disease in the lungs.

Whilst in the hospital, the patient suffered much from retching and sickness; and complained of pain in the loins and epigastrium, frequently accompanied by tenderness on pressure over the latter region. He had frequent cramps in the muscles of the abdomen and legs, especially when he retched; and found it easier to lie with the knees drawn up, the cramps becoming worse when his legs were stretched out. A few days after his admission, the matter vomited became of a greenish colour and had a bitter taste. On February 14th, for the first time, a faint systolic murmur was heard at the apex of the heart, and the pulse fell to 52, and became extraordinarily weak; but a day or two afterwards rose again to 60. On the 19th, he was so weak that he fell when he attempted to get out of bed; and on that day the matter vomited consisted of mucus streaked with blood. He now slept badly; and by the 22d had entirely lost his appetite. The retching continued; and there was a distinct cadaverous odour about his person. On being raised up in bed for examination of the chest, he became very faint and sick. On this day, fine crepitation was found below the left clavicle, and rhonchus and sibilus were heard all over the posterior part of the thorax. There was also marked dulness over the upper part of the chest posteriorily. He had raised a few thick dark green sputa, several of them tinged with blood; and he complained of sharp pain in the region of the diaphragm near the margin of the right ribs when he breathed hard. From this time he gradually sank, and expired on the 2d instant; death being preceded by great restlessness, retention of urine, wandering of mind, and groaning as if from pain.

At the *post-mortem* examination the lungs were found firmly attached to the ribs by fibrous adhesions. Deposits of yellow cheesy matter were found in the apices of both lungs; and these deposits were surrounded by dark consolidated tissue intersected by fibrous bands. The lungs were everywhere else perfectly crepitant. There was recent pericarditis; and the right cavities of the heart were filled with firm masses of yellow semi-transparent fibrin adherent to the musculi pectinati and chordæ tendineæ, and passing into the pulmonary artery as far as the second division. A similar but smaller coagulum was found also in the left ventricle, passing for a short distance into the aorta. The great omentum was firmly adherent to the diaphragm and the gall-bladder to the small intestine. The under surface of the diaphragm, the surface of the mesentery, and of the peritoneum in front of the spine, were studded with patches of gray tubercular granules surrounded by deposits of black pigment. Peyer's glands were normal; the kidneys were slightly granular.

Both suprarenal capsules were enlarged and nodulated, the right being much the larger. The fibrous envelopes were much thickened; and that of the right capsule firmly adherent to the diaphragm. On section, no traces of cortex or medulla were discoverable; but the whole of both organs had been converted into material which to the naked eye had precisely the appearance of tubercle.

Under the microscope, a section of one of the discoloured patches from the tongue showed deposits of brown pigment arranged in irregular masses in the papillæ; the superficial layers of epithelium covering them being quite free from discoloration. I may here observe that the deposit of pig-

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ment in the skin giving rise to the discoloration of Addison's disease is situated, as a rule, entirely in the rete mucosum, the epidermis and the true skin remaining generally unchanged.

You will have observed that this case presents the same general features as the former one; namely, gradually progressive asthenia and gastric irritability, attended by discoloration of the skin and of the mucous membrane of the mouth. In both cases, also, old tubercular deposits in a quiescent state were found in the lungs. This is quite in accordance with general experience; for tubercle in the lungs or other organs has been found associated with Addison's disease in a majority of all the genuine cases published. To the black discoloration round the patches of tubercle on the peritoneum in the last case, I attach no importance beyond that of their affording proof of the very chronic character of the tubercle in these situations; for the same appearances have often been observed in chronic tubercular affections of the peritoneum, in cases in which the suprarenal capsules have been found quite healthy. Indeed, several foreign writers are of opinion that the discoloration found in Addison's disease is due, not to the peculiar morbid change in the capsules, but to the general tubercular disease which is frequently associated with it. It is quite true that, in very chronic phthisis, there is occasionally a dusky hue of skin; and I have lately pointed out to many of you two such cases under my care; but this discoloration in phthisis is comparatively rare, and, when it does exist, is wanting in all the characteristic features of the discoloration peculiar to Addison's disease. Moreover, it is just those cases of Addison's disease which are complicated with advanced phthisis in which the discoloration of skin is most frequently absent; whereas, if the theory to which I have referred were correct, those are precisely the cases in which we ought to find it the most invariable and most strongly marked. The adhesion of the right capsule to the diaphragm and the thickening of the connective tissue round both capsules in Dr. Thompson's case afford conclusive evidence of there having been inflammation in those parts, although the *post-mortem* examination has revealed no obvious cause for it, such as the caries of the spine, which I feel assured will be found in the case of C. S., the patient now in Founder Ward. Doubtless some of the symptoms presented by Dr. Thompson's patient were due to the other diseases under which he was also labouring; but this in no way invalidates the correctness of the diagnosis as regards Addison's disease, which was made on the day of the patient's admission, and was proved to be correct a month afterwards by *post-mortem* examination. A few days before death an unpleasant cadaverous odour was observed about this patient's person. This peculiar symptom has been noticed before in Addison's disease, both by myself and by other observers. In my experience, it is a sign of the approach of death, which has invariably taken place in the course of a few days after its appearance.

The discoloration is quite characteristic in both the cases I have related; though it is most intense in Dr. Stewart's case, which you can still see for yourselves. Sometimes, however, the discoloration of skin is faint, and insufficient to suggest the nature of the disease from which the patient is suffering. It has happened to me on two occasions to be led to diagnose Addison's disease by the constitutional symptoms alone, aided by the circumstance that there was no other discernible disease to account for them; and I have then had to look closely for the slight discoloration of skin in order to confirm my diagnosis. This occurred, in fact, with regard to the case which I mentioned, at the beginning of this lecture, as having been recently in the hospital under my own care; and, as it seems to show the at least temporary efficacy of treatment in this disease, I shall devote a few minutes to giving you some particulars of it.

J. D., aged 43, park-keeper, became an out-patient under my care on the 17th of last November. He had had ague some years before coming under observation; but had been otherwise healthy until about five months since. He had suffered much during that period from pain in the loins, especially on the right side, and from pain and tightness in the epigastrium, for the relief of which he had applied a small blister to the part three months before his admission. He had also suffered from vertigo, and latterly from nausea, retching, and vomiting.

On admission, he had a languid, exhausted aspect; his pulse was extremely

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feeble; he was short of breath, and manifestly very ill; but there was no emaciation, nor any obvious evidence of local or constitutional disease. He had a troublesome catarrhal cough, but without any physical signs of pulmonary disease; his tongue was clean; bowels confined; and urine normal.

From the absence of any other cause for his peculiar symptoms, I was at once led to suspect the existence of Addison's disease, and to seek for discoloration of skin in corroboration of my suspicion. I then observed that the face and back of the neck were slightly dusky, as were also the hands and arms as high as the elbows. The part on the epigastrium where the blister had been applied three months before was deeply discoloured; and on the left clavicle there was a yellow-brown stain, about an inch in length, evidently corresponding to the cicatrix of some slight wound. These last features of the discoloration decided me in the opinion that the case was one of Addison's disease. With these exceptions, however, the skin was still fair, and free from pigmentary deposits. The buccal mucous membrane presented several brown stains in places which had apparently been irritated by the teeth; but the margins of the lips were unaffected.

J. D. continued an out-patient until December 29th, when he was admitted into Hertford Ward. His cough had abated, and he had lost the sickness for some time; but on the 20th of December he had been attacked with severe pain in the epigastrium, together with loss of appetite, nausea, and breathlessness. These all continued at the time of his admission. His hands were cold; his pulse thready and compressible; respiration hurried; and he had a constant inclination to yawn and stretch His face, hands, and nipples were manifestly darker; and several dark specks, of the size of freckles, had appeared since he was first examined, but all on the previously discoloured parts of the skin. While in the hospital, he had slight cough, raising a thick, dark, scanty mucus. His pulse remained feeble; and he still had pain in the left hypochondrium, but was better in both respects while in the recumbent posture. He left rather suddenly in consequence of the shock occasioned by the deaths of the patients in beds on either side of him on two successive days; but he has continued under treatment up to the present time. He is now decidedly stronger, and has been able to resume his occupation; but he still presents, though in a mitigated degree, the same constitutional symptoms and the discoloration of skin is becoming gradually more general and its characteristic features more strongly marked.

These circumstances leave no doubt whatever on my mind as to the existence of Addison's disease of the suprarenal capsules; and, although the patient may, with great care and suitable treatment, be propped up for an indefinite time, he must always be considered as in imminent danger of a breaking down under any powerful depressing influence. Even an unusually severe day's work, or a slight attack of diarrhœa, might suffice to upset the balance and lead to a speedily fatal issue of the case. Nevertheless, he has unquestionably benefited much from the means used; for when he came into the hospital he was becoming so rapidly worse, that it seemed probable he would die in a few days; and he not only improved much before he went out, but continued to do so afterwards at home, and has not yet relapsed.

The other case which I mentioned as having been in the hospital under Dr. Thompson's care, and which has remained under my observation ever since, has followed so very similar a course, that I shall read you a brief history of it, before proceeding to point out the mode of management which I have hitherto found most successful in delaying the progress of the malady.

E. B., aged 26, needlewoman, was admitted into Northumberland Ward in March 1865. Dr. Thompson asked me to examine her on the day of admission. Ten years before, she had hurt her hip, and had been cupped; but she had been in generally good health, and had worked hard until November, 1864. She then began to fall asleep over her work, to have frequent attacks of vomiting, and to suffer from gastralgia, and from breathlessness and palpitation on exertion. About Christmas, her friends noticed that her complexion was becoming darker. On admission, her pulse was exceedingly small; and she complained much of lassitude and of vertigo when she moved about, or even raised herself suddenly in bed. She had no appetite, but constant thirst and craving for cold water.

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Her respiration was quick and shallow, with a tendency to yawning. There was slight dulness on percussion immediately below the right clavicle, and considerable tenderness on pressure in the right hypochondrium. Her face was generally dusky, with ill-defined patches of a darker brown on the forehead and cheeks; the conjunctivæ, as usual in this disease, remaining white. The chest was dusky; the nipples and areola intensely brown; and the mammæ atrophied—a circumstance I have observed in other females suffering from this disease. The cicatrices of the cupping-marks on the hip, and of a burn on the right elbow, were stained brown; and there was a dark line nearly round the abdomen, corresponding to the line of pressure of a string belonging to her dress. Here you will recognize the same train of symptoms and the same characteristic features of discoloration of skin which I have described in the other cases. This patient improved very much in the hospital, and left it at the end of some weeks, for the Convalescent Institution at Walton-on-Thames. On her return home, she discontinued the treatment, and resumed her work, but fell off again in a month or two; and, on being sent to in haste, I found her one night lying exhausted, cold, almost pulseless, sighing and yawning, retching at every movement, and complaining of intense pain in the hypochondrium. In fact, she seemed almost dying; and I brought her at once to the hospital, where, however, she again rallied, and was again discharged at the end of a few weeks, in a greatly improved condition. Soon after leaving the hospital she married, and continued tolerably well for some months, but is now once more under my care as an out-patient, suffering, though in a less intense degree, from her former symptoms; and the discoloration of her skin has certainly become deeper during the interval. Her hair, originally of a dark brown colour, has also gradually changed to black, and has become very coarse.

It seems to be unquestionable, from the history especially of this last case, that Addison's disease, although incapable of cure, is yet in some degree amenable to treatment in respect of delaying its progress, unless the illness have already arrived at its later stages. Owing, no doubt, greatly to our still imperfect knowledge of the nature and causes of the disease, the means of treatment at our disposal are as yet unfortunately scanty. The remarkable asthenia, however, by which the disease is characterized, the constant tendency of the patients to succumb under any powerful depressing influence, and the strong evidence as to the disease being frequently a result of surrounding irritation, are facts which clearly indicate the necessity for tonic treatment and nutritive diet, the avoidance of all causes of depression, and the great value of rest and of such therapeutic agents as may relieve the vomiting and other exhausting symptoms and tend to invigorate the general health. Prolonged rest in bed, and subsequent avoidance of fatigue, or indeed of much bodily exertion or mental strain of any kind, have formed essential parts of the management in all the cases which have improved for a time under my observation. The use of drastic purgatives should also be scrupulously avoided in these cases. Constipation is more common than otherwise in Addison's disease; but, unless it be very extreme, I think it better to abstain from interference than to risk the dangerous depression which often follows the administration of aperient medicines. Many of you will recollect the case of E. W., a young girl who died under my care in Murray Ward of Addison's disease somewhat more than a year ago, and whose fatal seizure appeared to have been brought on by the effects of a dose of calomel and jalap given her by her mother.

As regards diet, the only plan is to give nourishing food of whatever kind the patient's stomach can best bear, and this will probably vary more or less in every case; substituting milk, eggs, jellies, oysters, and the like, for the stronger diet of meat or soups, when the stomach cannot tolerate these latter.

For the relief of the nausea and vomiting, ice, soda water and brandy, chloroform or creasote, bismuth and effervescing medicines, with citrate of iron, have each in turn proved useful in my hands; and, again, each at times has failed to effect any good purpose. After the sickness has abated, decided benefit sometimes attends the administration of chalybeates and cod-liver oil or glycerine. In the last two cases I have related to you, cod-liver oil disagreed with the patients; but glycerine, in doses of two drachms, combined with fifteen or twenty

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minims each of spirit of chloroform and of the tincture of sesquichloride of iron of the *London Pharmacopœia*, has been of great service. I speak positively on this point, because in each case the patients on several occasions having discontinued the medicine as soon as they felt better for it, have then fallen off, and, on applying to me and resuming its use, have in a week or ten days begun to improve again without any other simultaneous change in their treatment or circumstances.

Little as this is, it is yet all that I can tell you from my own practical experience on the subject of treatment; and I shall now only detain you for one concluding remark. You may be surprised that I have chosen to base my lecture on four cases of Addison's disease, of which only one has passed the crucial test of a *post-mortem* examination; but I have done so purposely, because I have little doubt that in one at least of the other three cases we shall soon have the opportunity of verifying the diagnosis and of thereby proving the reality of the relation between the symptoms I have described and Addison's disease of the suprarenal capsules—a relation of which I am myself as firmly convinced as I am of the relation between the physical signs of a cavity in the lungs or of incompetency of the mitral valve and the diseases which they respectively indicate.—*British Medical Journal*, July 14, 1866.

HOSPITAL NOTES AND GLEANINGS.

Pyæmia in Dresden Hospitals.—Mr. A. Bruce, who spent a couple of weeks in the Dresden Military Hospitals, after the Battle of Königgrätz, gives (*Lancet*, Aug. 25, 1866) some interesting particulars of his observations there. Pyæmia, he says, was "the scourge of the hospital. Of all the post mortem examinations I had the opportunity of making, there were but few in which the patients were found to be non-pyæmic. The majority presented most typical and most terrible examples of metastatic abscesses in lungs or liver, more frequently in the former than in the latter; but when they did occur in the latter organ, they generally attained a far greater magnitude. In one case, the entire organ was completely riddled with abscesses. These sometimes appeared to follow the branches of the portal vein, presenting on section a remarkably arborescent appearance; the suppurating lobules had in such cases a dark spot in the centre. Abscesses appeared with almost equal frequency in the two lungs: most frequently in the posterior bases, and possibly more often in the right than the left lung. The position of these abscesses was marked on the surface by an indurated and elevated mass, surrounded by a ring of hemorrhagic effusion. In some cases it would seem as if suppuration had subsequently taken place outside this ring; thus there was an outer zone of grayish-green pus, then a zone apparently of dark altered blood, inclosing the ordinary metastatic abscess or slough. Decomposition advanced so rapidly in these cases that even when the post-mortem was made whilst the body was still warm, the blood in the liver and other organs was found to be aerated and loaded with gas-bubbles. An abscess was once found in one of the papillary muscles of the left ventricle of the heart. They were rarely found in the spleen, and not once in the kidneys." * * *

"Few things surprised me more than the small quantities of stimulants given by the German surgeons. Even in cases of profuse suppuration, low forms of erysipelas, pyæmia, &c., they give no brandy, and only moderate quantities of red wine (claret). This seemed to me to be a fatal error; and several cases would, I feel assured, have done better under a more actively stimulating treatment. Even with the enlightened views of the German school of pathology, there is still much of the old prejudice with respect to the nature of inflammation."

Hysterical Tetanus.—Reported by Dr. Belcher. C. B., æt. 16, by occupation a milliner, a resident in Dublin, and unmarried, was admitted into St. Vincent hospital on the 22d of March, 1866, under the care of Dr. Mapother. Previous to admission she had worked for ten hours daily; her menstrual functions were in general regular, though obstructed at the above date; and she was perfectly healthy in other respects.

The immediate cause of her admission was the occurrence of a slight punctured wound, which was to be seen between the thumb and first finger of the right hand, and was occasioned by one point of a small pair of scissors. This happened on the 16th March. Within ten minutes after the occur-

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rence of the accident, she began to experience a gradually extending sensation of stiffness in the biceps muscle of the right arm. On the night of the 19th March, the rigidity extended to the muscles of the neck.

On admission on the 22d of March she could scarcely walk up stairs to her bed; her body was bent to the right side; her left leg was also affected and her hip was sore. Her pulse was 120. She was directed to take one-eighth of a grain of extract of belladonna in a pill every four hours; also to have ice applied to the spine and the back of the neck for six hours, and to have a turpentine enema twice. In the evening her pulse had fallen to 68. The pills were continued up to the night of the 23d. She was also allowed beef-tea and four ounces of wine. On the 24th I saw her a second time. She was then better; was not taking any medicine, and her diet was mainly composed of tea, eggs, and beef-tea. She now has the globus hystericus in the throat, and feels great difficulty in swallowing, though not by any means so much as she felt at the time of her admission. The local treatment of the wound was simply poulticing.

March 28th. On the 26th and 27th she could scarcely swallow anything. She is now a little improved in this respect; but her throat is still much complained of. Pulse 92; tongue clean. She has pain in the arm, but not in the thumb. She also has pain in the abdomen which had suddenly become tympanitic. The wound is now healed. For this symptom turpentine enemata were ordered.

April 4th. This day I saw the patient sitting up by the fire. She still has the globus hystericus with difficulty of swallowing; but she has not had any medical treatment beyond the local application of a liniment composed of linimentum saponis with opium.—*Medical Press and Circular*, April 11, 1866.

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Aneurism of External Iliac Artery; Ligature of Vessel with Silver Wire; Death from Bronchitis.—The plan adopted in the two following cases was new to this country, although it has been employed, we believe, in one case in America. Two objects were aimed at in the substitution of silver for silk or hemp in the ligature; 1st, to encourage healing of the wound by the first intention, never altogether practicable where the end of a ligature passes through it; 2d, to lessen the risk of the occurrence of secondary hemorrhage. The first of these objects was not attained in either of these cases, since inflammation took place in the track of the wound. As regards the other point, however, the condition of the artery after death in the fatal case must be considered favorable. The coats were not cut through; circulation had been stopped by lessening the calibre of the vessel. Mr. T. Pick, pathological registrar, has obliged us with notes of the first case:—

George H——, aged fifty-one, painter, admitted into St. George's Hospital, under the care of Mr. Pollock, on the 11th of September, 1865. Six months ago he fancies he strained himself while opening some sheets of lead, for he felt pain in the groin at the time, and the following morning he noticed a pulsation in this situation. He has continued his work since "on and off," and a week ago he noticed a swelling at the seat of pain.

On admission there was a circumscribed, pyriform swelling in the right groin, about three inches long by two broad. It was situated under Poupart's ligament, and extended from about one inch above, to two inches below it, in the course of the femoral artery, from which it could not be moved. There was a very distinct and forcible pulsation, consisting of a dilatation from above downwards; there was no distinct bruit to be heard. Pressure on the external iliac above the tumour almost, but not entirely, stopped the pulsation. The tumour could be emptied by pressure, but speedily refilled. Pulsation was much stronger in the posterior tibial of the left side than the right. There was a slight aortic murmur with the systole of the heart.

Sept. 14.—The patient having been placed under the influence of chloroform, a semilunar incision was made just above Poupart's ligament, and, the various layers of the abdominal wall having been cut through, the artery was exposed. It was then encircled by a loop of silver wire, which was tied; this completely commanded the circulation in the tumour. The ligature was cut off short, and the wound brought together with silver sutures.

15th.—Last evening he complained of pain in the belly; it however soon passed off, and he slept pretty well. He now complained of rheumatic pains in both knees and ankles, otherwise he was comfortable.

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Pulse was 120, full; skin warm; tongue white. The wound was perfectly quiet, and the leg, which had been swathed in cotton wool, was warm. About noon he began to complain much of cough, and his countenance began to assume an anxious expression. Mucous râles could be heard over both lungs.

16*th*.—His pulse was 136, thrilling; respirations 44 in a minute; mucous râles over both lungs. The wound looked quiet; no redness, but a little discharge. The tumour was consolidated. The foot felt extremely hot, and there was a discoloured vesication on the top of the great toe.

17*th*.—He lay in a semi-conscious state, with extreme dyspnœa. Respirations 54 in a minute; pulse 128, running; mouth dry; tongue dry, brown, and furred; skin hot; face flushed. There was considerable diffused cellular inflammation around the wound, and a hard, brawny place in right flank; skin over it of a dusky red. The spot on the toe was rather less discoloured. An incision was made into the inflamed cellular tissue, and one of the sutures was removed from the wound. He was ordered brandy. His breathing became more and more oppressed, and he died the same afternoon.

On examining the parts after death, there was found to be a tubular dilatation of the whole calibre of the external iliac artery just at the point where it becomes femoral. The aneurism was about the size of a peach, and on its lining wall was a very considerable deposit of laminated fibrin, whilst its centre was occupied by a clot. About an inch above the aneurism the vessel was tightly embraced by a silver ligature, which, however, had not in any way cut through and destroyed the coats of the artery. The vessel between the ligature and the aneurism, as well as above the ligature for some distance, was filled with decolorized clot, which was partially adherent to the lining membrane of the vessel. No other parts were examined.—*Lancet*, Sept. 22, 1866.

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Popliteal Aneurism; Ligature of Femoral Artery with Silver Wire; Recovery.—J. W——, aged forty-three. In 1862, while carrying a piece of timber, he fell with his leg under him, and strained his knee, for which he was laid up for fourteen weeks. About a fortnight before admission he noticed a kind of jumping pain in the popliteal space of the right leg, which was relieved on his sitting down, but was greatly augmented in walking or moving the leg at all. The heart-sounds are natural, and he has never suffered from any illness except the accident above mentioned.

On admission, there was a large, egg-shaped, pulsating tumour, about the size of an ordinary fist (larger from above downwards than from side to side), situated in the popliteal space of the right leg. On applying the stethoscope, a distinct aneurismal bruit could be heard. The pulsation of the post-tibial artery was weaker than in the left leg.

On Nov. 2d. Mr. Holmes first commenced flexion of the limb for two days; but on account of the severe pain it caused the patient, it was discontinued, without any marked improvement having taken place.

Nov 4.—Digital pressure was tried for fourteen hours; but this again caused such severe cramping pains, that it was discontinued. Some little deposit had, however, commenced in the sac, and the tumour was rather more circumscribed.

6*th* to 14*th*.—The tourniquet was applied for periods of three to six hours daily, with marked benefit, the tumour being much more circumscribed and consolidation evidently going on.

16*th*.—The tourniquet was discontinued on account of the parts of the thigh becoming so lax and the artery so movable that it was constantly becoming displaced.

Various forms of compression were tried in succession, but none were found applicable. The patient then learned to compress the artery himself, but it produced no visible effect. Then the aid of fellow-patients, assisted by the students, was called in to compress the artery for twenty minutes out of each half hour during twelve hours per diem. At first, this was thought to be producing coagulation rapidly; then the disease seemed stationary, but the bruit always continued as loud as ever. At length it became evident that the tumour was increasing in size along the popliteal space of the femur, and then it was determined to tie the vessel.

Accordingly, on Dec. 28th, Mr. Holmes cut down upon the femoral artery at the apex of Scarpa's triangle, and ligatured it with silver wire. The wound was sewn up with

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three silver sutures, the leg wrapped in cotton wool, and a bandage of flannel bound round it.

29th.—Pulse 126, thready. Passed a bad night. Leg painful; wound healthy; no pulsation in tumour.

30th.—Pulse 116; tongue cleaner; foot quite warm, no pulsation in tumour, which is smaller; slight redness and tenderness at the upper and inner border of wound.

31st.—Pulse 96; wound red, but not so hard or tender; foot warm; tumour smaller and more consolidated.

Jan. 2.—Pulse 88; wound probed, and a large quantity of pus let out; linseed poultice to be applied.

4th.—Wound nearly healed; no more pus exuding; tumour consolidated.

12th.—The wound is quite healed. The patient to get up. There is a good deal of thickening about the ligature, owing very likely to an effusion of lymph.

22d.—The tumour is gradually decreasing in size, and he can walk with a stick. He is to go into the country for a month.

June 23.—He was seen by Mr. Wilson, who remarks:—"The thickening about the ligature has disappeared. There is a tumour, about the size of an egg, in the popliteal space, very hard. No articular arteries can be detected about the joint. He still keeps the leg wrapped up in a flannel bandage, as he says it always feels cold. He is able to walk a considerable distance without limping, and has been at work for the last three months, and is now doing very heavy work, —viz., pulling down a house."—*Ibid.*

CHOLERA.

Treatment of Cholera by Hypodermic Injections of Warm Water. By HERMANN BEIGEL, M. D.—M. S., a widow of 44 years, had, since the outbreak of the present epidemic, been very much engaged in nursing cholera patients. On the 26th of August she did not feel quite well; and about one o'clock A. M., on the 27th, she was severely attacked by cholera, vomited very much, was purged severely, and subjected to violent cramps. In that condition she was received on the 27th into the cholera ward of the London Hospital. She was a well made woman, strong and muscular. The eyes lay deep in the orbits, and had a very distinct dark circle. The skin, particularly of the face and hands, was cold, inelastic, and wrinkled; the nails blue. The patient was extremely thirsty, frequently vomiting and purging, and up to twelve A. M., at which hour I first saw her, scarcely a few minutes free from cramps, so that she was constantly screaming with pain. The epigastric region was particularly painful. The case was, in the opinion of the house-surgeon, as well as of the matron, one of the worst which had been admitted into the hospital during the epidemic.

Temperature on admission, 36 3° cent.; pulse 112, very small, scarcely perceptible; respiration 22 in a minute. At two o'clock P.M. the temperature was 35.6° cent., pulse 96, respiration 24; at six P.M. temperature 35.9° cent.; and at eleven P. M. temperature 36.0° cent., pulse 104, respiration 22. On the following day, at six A. M., the temperature was 53.8° cent., pulse not perceptible, respiration 28; at eleven A. M. temperature 35.5° cent., pulse not perceptible, respiration 30; at four P. M. temperature 34.9° cent., pulse not perceptible, respiration 36.

After examining the patient, I proceeded to inject warm water hypodermically. This operation was performed much more easily than I had imagined. In the calves, thighs, arms, and epigastric region seven ounces of water were injected, and so rapidly absorbed that I did not even find it necessary to put a piece of plaster to the little wounds caused by the syringe. Immediately after the completion of the injection the cramps ceased entirely, and did not return till the death of the patient. According to the report of the matron the thirst was also diminished, and the patient remained longer without asking for drink than she had done before the injections; the pulse became likewise more perceptible, and was reduced from 112 to 96. At half-past five o'clock P. M. I again injected four ounces and a half of warm water, and, according to the report, the vomiting and purging were not so frequent; but, as shown above, the principal sign—namely, the temperature —not only showed no improvement, but a decrease.

On the 28th, the general appearance of the patient was worse; vomiting and purging became, towards the morning, again more frequent; and the skin was very cool, and void of elasticity. I injected five ounces of water, and the absorption still took place

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rapidly. In the course of the day the expression of the eyes became staring, the collapse increased, and the patient sank at about six P. M.

This case, although it ended fatally, affords some points of very great interest.

1. It has not been known hitherto that such large quantities of fluid could safely be injected hypodermically.

2. It is of great importance to know that, even in collapse, and when the stomach steadily refuses to retain its contents or anything that has been introduced into it, the skin is capable of absorbing fluids and bringing them into the current of circulation. Of that fact use may be made in other diseases, and nutrition carried on artificially till the alimentary tract is brought into a better condition.

3. Experiments have been made to carry out the idea just mentioned by injecting broth and other fluids, as much as a pint at one spot. Such a method is physiologically not justifiable, and, therefore, will scarcely be crowned with success; on the contrary, it causes inflammation of the respective parts and gangrene of the skin, whilst injection of a considerable quantity of fluids at different spots, and of about twenty or thirty minims at a time, may be practised without causing any considerable pain, and with the certainty of the separate small quantities of fluid immediately being absorbed and carried into the circulation.

4. In the case described above the injection of seven ounces of water was effected in about an hour and a half; but, to perform that operation in a shorter time, I had an instrument manufactured by Messrs. Krohne & Sesemann, of Whitechapel Road, which I call an "injector," and by means of which several ounces and even a pint of fluid may be conveniently injected hypodermically, according to the principles I have stated, in a very short time.

5. Should I have further opportunity of continuing this kind of treatment, the solution which I would choose for injection would be one containing ½ per cent. of phosphate of soda and ½ per cent. of common salt, that being the chemical composition of the rice-water evacuations as analyzed by Kletzinsky.

6. Hypodermic injections, as I learn from several communications made to me after my short paper in the *Lancet* of 25th Aug., have been recommended also by different authors on the continent, and particularly by Dr. W. M. Gunning, of Amsterdam; and it really seems that this method, when properly applied, will at all events enable medical men to act more surely, and therefore more energetically, against the disease. —*Lancet*, Sept. 29, 1866.

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Nature of the Supposed Choleraic Poison. —Dr. Julius Althaus observes: "Some experiments which were lately made by Professor Horn, of Munich, seem to bring us a step in advance in our efforts to determine the nature of the choleraic poison. He connected the prime conductor of an electrical machine, the plate of which had a diameter of not less than three feet, with one end of a copper-wire, the other end of which was put into a tumblerful of water. The machine being put in action, this water was promptly ozonized. On the other hand, it was found that if one end of the wire was connected with the *cushions* instead of with the plate, so as to receive negative electricity, the water was impregnated with a cyanide. A person who frequently smelt at this water, and drank some of it, was seized with symptoms of severe cholerine, which were, however, quickly arrested by drinking some of the ozonized water. In presence of these experiments it seems to me very important that the drinking-water of our present cholera fields should be examined for cyanides, more especially as there is considerable analogy between the symptoms of cholera and those of poisoning by cyanides. Many facts which have been brought to light by previous experience might be satisfactorily explained by assuming the choleraic poison to be a cyanide. Thus we know that water which has been boiled does not propagate cholera, which might thus be accounted for by the circumstance that all cyanides, when heated in the presence of water, are destroyed. Again, the undoubted efficacy of sulphuric and other acids in arresting the premonitory symptoms of the disease might be explained by the power mineral acids possess of decomposing cyanides; and the failure of acids in the fully-developed disorder might be seen to depend upon the fact that acids, as such, only reach the alimentary canal, but not the blood. Lastly, we know that after storms, when the air is strongly ozonized, a decrease of cholera generally takes place; probably, again, owing to ozone decomposing the

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cyanic poison. Might we not, therefore, in view of the failure of all methods of treatment hitherto adopted, employ ozonized water as an antidote in the treatment of cholera? And might we not use means of artificially ozonizing the air of our present cholera districts?"—*Lancet*, Oct. 6, 1866.

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Preparations for Cholera.—A French prefect wrote to one of the mayors of his department advising him, as the cholera had broken out in the district, to take all the necessary precautions. After some time the mayor wrote to say that he had taken all the proper steps, and upon the prefect sending to see that they were effectual, he found that the only preparation the mayor had made consisted in having a large number of graves dug in the churchyard.—*Lancet*, Sept. 29, 1866.

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Progress of Cholera. Great Britain.—"The cholera matter," says the Registrar-General in his last weekly return, "is now diffused very equally all over *London*, and as the waters of the upper Thames, of the Lea, and of the wells become infected, the utmost exertions of the authorities will be required to insure its decline." By whatever mode the disease has been disseminated, we cannot help feeling that possibly, if more energy had been exhibited at the outset by the authorities, and, above all, if the population had been more intelligent and less apathetic, we should not now be lamenting a stationary, instead of a declining, course of the pestilence.

Two things are clear—first, that at its birth the present outbreak was restricted almost exclusively to one locality; in fact, it was essentially a local epidemic, whose origin has been explicitly defined, and is now probably everywhere tacitly accepted as determined: and, secondly, that in the course of a few weeks the localized characteristics of the epidemic have disappeared, and it is now become general throughout the metropolis, although, happily, in a greatly modified degree of virulence. The following table, showing the distribution of the deaths during each week of the epidemic period down to the latest date, will best illustrate the nature and time of the transition in its character, and will be useful as an authentic record of the progress of the disease:—

Groups of Districts.	Weeks ending													
	July 7.	July 14.	July 21.	July 28.	Aug. 4.	Aug. 11.	Aug. 18.	Aug. 25.	Sept. 1.	Sept. 8.	Sept. 15.	Sept. 22.	Sept. 29.	Total of 13 weeks.
CHOLERA.														
London	14	32	346	904	1053	781	455	265	198	157	182	150	177	4714
West districts	3	2	11	12	12	8	7	3	6	12	10	14	12	112
North districts	1	4	6	20	46	38	15	12	15	20	27	28	36	268
Central districts	1	3	1	15	32	23	16	13	9	12	20	19	28	192
East Districts	3	20	308	818	916	673	369	198	122	74	77	56	55	3689
South districts	6	3	20	39	47	39	48	39	46	39	48	33	46	453
DIARRHŒA.														
London	102	150	221	349	354	264	194	129	128	132	110	98	67	2298
West districts	16	18	37	48	46	31	28	15	12	18	14	11	9	303
North districts	23	37	54	78	79	51	40	21	24	19	11	19	11	467
Central districts	18	28	31	44	42	31	22	13	18	14	15	17	17	310
East districts	26	37	60	123	125	101	63	41	43	44	35	24	18	740
South districts	19	30	39	56	62	50	41	39	31	37	35	27	12	478

It will be observed that in the thirteen weeks from its first serious appearance in London cholera has carried off 4714 persons, and diarrhœa 2298. The sudden increase from 32 deaths by cholera in the week ending July 14 to 346 in the next week assured us that we were in for a strong fight with the old foe; another seven days saw

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the deaths trebled, and in the week ending 4th August 1053 deaths were recorded, of which number 916 occurred in the eastern group of districts. This was the maximum point of the epidemic, and for the succeeding five weeks the deaths exhibited a satisfactory diminution; but there unfortunately we are met by an increase which has had the effect of throwing us back, so that we are now in about the same position as we were a month ago. And with regard to the distribution of these deaths, the facts are very striking, as showing the gradual diffusion of the disease from its original centre. In the week ending August 4 there were, as we have said, 1053 cholera deaths registered, and 916 of them happened in the east districts: this gives a percentage of 87 deaths in one specific locality.

Of the other cities and towns included in the Registrar-General's weekly return, *Liverpool*, as ranking only second in importance to London, merits a passing remark upon the diminished number of deaths from cholera in the last week, which were 116, as compared with 159, 182, 145, 225, and 146 in the preceding weeks. From one cause or another it seems as though a general mortality rate double that of London is to be looked for regularly in Liverpool as a matter of course; and, taking the last twelve weeks, the death-rate from cholera and diarrhœa has been twice as great in proportion to its population as the death-rate in London from the same cause in the corresponding period.

In *Dublin* the cholera returns show a considerable increase; the deaths in the last five weeks have been 41, 52, 55, 65, and 98.

The epidemic, according to the *Lancet* (Sept. 29th), "is becoming more diffused in England. It has appeared at Wigan, and in the neighbouring districts; also at Prescot, in Lancashire; at Hartlepool, in Durham; at Thorne (and according to a local paper) Doncaster, in the West Riding, and Pocklington, in the East Riding of Yorkshire; at Exeter and Newton Abbot, in Devonshire; in the Bridgend and Cowbridge Union and Pontypridd, Glamorganshire; Bristol and Clifton, in Gloucestershire; Leighton Buzzard, in Bedfordshire; and at Blean, in Kent. Scattered cases are also reported from other districts. In no instance, as yet, have these outbreaks proved formidable, but they show a wide and increasing dissemination of the choleraic poison which arouses the gravest fears, not only for the present, but for the coming year. Applying to the course of the epidemic in this country the experience obtained from its diffusion over the continent of Europe, it is to be feared, as we pointed out last week, that the development of the disease in this country will not terminate with the present year."

The news from the *Continent* still tells of the extension of the epidemic. In Saxony cholera has not only broken out in Dresden, but it has appeared also in Leipzic, Bautzen, Zurichau, and Clauchau. The mortality is reported to be as yet small.

In *Christiania* the disease would seem to be slowly extending among the population. From August 16th to September 10th, 24 cases were registered, 19 of which proved fatal. All the earlier cases ended in death.

In *Belgium* and its capital the epidemic is still so prevalent that the popular festival in honour of the revolution of 1830, and the National Rifle Meeting (which a large body of English volunteers had proposed to attend) have been postponed.

From the *East* there is scattered information of the course of the epidemic of some interest. At the close of 1865 (as Mr. Radcliffe relates in his history of the progress of the epidemic in that year) Bagdad had been invaded, the disease having travelled to that city along the line of the Euphrates, having manifested itself successively at Sukesh-Shiookh, Sumaweli, Devaniah, Nejjeff, Kerbela, and Hilleh. Subsequently the malady extended to Samarrah, Kirkook, and Mosul through the intervening districts.

We now learn that early in the present year cholera was prevalent in Suleimania (seventy-three miles E. N. E. of Kirkook), and that it was raging in at least one locality near the Persian frontier. The disease also reappeared at Bagdad, scattered cases occurring from March to May. The latest news (two months old) makes known that the epidemic, extending on the one hand northwards from Suleimania, had advanced into Persia, attacked So-uj-Bolak, and spread through the district west of Lake Urumiyah to the town of that name; while, on the other hand, travelling eastwards and northwards from Mosul, it has appeared in Diarbekir.

Urumiyah has a population of 30,000, and the mortality rose in a few days from 5 or 6 deaths daily to 150.

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PRUSSIA.—In *Danzig*, during the week ending 20th September, 44 cases, 20 deaths. Six preceding weeks, cases, 338, 338, 388, 267, 307, 159; deaths, 166, 173, 182, 144, 184, 191.

HOLLAND.—General return for the whole kingdom: Week ending September 1st, 1352 cases, 842 deaths. Preceding week, 791 cases, 535 deaths.

Returns for the principal towns:—

	Sept. 12th.		Since commencement of epidemic.	
	Cases.	Deaths.	Cases.	Deaths.
Amsterdam,	6	8	1054	966
'S Gravenhage,	11	8	1641	967
Delft,	0	1	669	416
Rotterdam,	5	5	1862	1173
Arnheim,	3	3	485	311
	Sept. 11th.			
Culenborg,	3	4	205	123
Zwolle,	1	1	311	186
Groningen,	4	3	1677	985

RUSSIA. *St. Petersburg*.—General return from the commencement of the epidemic (June 14th) to Aug. 22th:—

	Males.	Females.	Total.
Attacks,	10.970	4,384	15,354
Recoveries,	8,231	3,277	11.508
Deaths,	2,151	930	3,081

Riga.—Aug. 29th, 129 cases, 70 deaths.

Mitau.—On Aug. 7th cholera broke out, and from that date to the 27th there were 35 cases.

Moscow.—From the commencement of the outbreak to the 8th of September, 536 cases, 250 deaths.

Kiev.—Aug. 24th, 14 cases, 6 deaths; 25th, 23 cases, 3 deaths; 26th, 20 cases, 11 deaths.

Berditchev.—Aug. 13th to 20th, 253 cases, 75 deaths.

Mokilev.—Aug. 10th to 17th, 230 cases, 80 deaths.

Odessa.—Aug. 20th, 59 cases, 28 deaths; 21st, 46 cases, 28 deaths; 22d, 39 cases, 22 deaths. The first case occurred on the 30th of June. The outbreak attained its highest development between the 24th and 31st of July, the maximum daily mortality being 123.

Warsaw.—Sept. 11th, 28 cases, 9 deaths.

FRANCE. *Nice*.—Mr. Consul A. la Croix, in a letter to *The Times*, makes the following statements relative to the outbreak here: From the 25th July (first appearance) to the 31st of July, 27 deaths in the town; 1 only from cholera. In August, 146 deaths; 20 from cholera. From Sept. 1st to 19th inclusive, 77 deaths; 17 from cholera. No death from cholera since Sept. 13th. Total deaths from epidemic within the periods named, 38 (in a population of 50,000). Total mortality from all causes, 250, as compared with 262 at the same period last year.

Boulogne.—The villages in the vicinity, as well as the town itself, have been affected by the epidemic. So far as can be ascertained the outbreak has never assumed serious proportions, the maximum daily mortality in the town not exceeding 12. The disease still retains a hold upon the low-lying localities.

AUSTRIA.—In *Vienna* 586 deaths were recorded for the week ending Sept. 22; of these 274 were from cholera. From the commencement of the outbreak to the 26th Sept. 1052 cases and 393 deaths were reported.

ITALY.—At *Naples* the epidemic, according to the latest news, was assuming formidable proportions. On the 16th of September 345 cases were reported, and 236 deaths; on the 17th, 312 cases and 214 deaths. A violent explosion of the disease took place in the Basso Porto during the second week of September. Ninety-six cases occurred in this filthy street (which suffered more than any other locality of that city in the outbreak of 1865) in one day, and more than half ended fatally. The Chiaja, the west end of Naples, has been severely visited by the malady; on several days the deaths equalled the number of new cases. The disease prevails with greater severity in the hamlets and villages in the vicinity than in the city. In Torra del Greco one hundred houses are said to have been closed, from the families having been swept off. To the 20th ult. the only places in the neighbourhood which had escaped were Sorrento, Ischia, and Capri.

Venice.—Prior to the 19th of September, six cases of cholera and four deaths occurred. From the 19th to the 22d there were no cases.

Trieste.—To the 22d of September, 406 cases had been reported, and 220 deaths. At the date named, ten cases occurred in the city and environs.

Goritzia and *Udine* appear to have been sharply visited by the epidemic.

Ancona and *Barletta* are said to be "again threatened."

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Genoa.—September 17th and 18th (noon to noon), 24 cases, 18 deaths; 18th and 19th, 39 cases, 12 deaths.

One of the Lipari Isles is said to be infected.

Palermo.—News from Valetta of the 25th ult, asserts that cholera had broken out in this city among the troops despatched there to subdue the insurrectionary movement.—*Lancet*, Oct. 6, 1866.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Cholera in Philadelphia.—It will be perceived from the bill of mortality in our last number and that in the present one, that the cholera which had gradually been subsiding, increased in the number of cases during the last week in September and during the first two weeks in October, but has again notably decreased in the number of its victims, giving hopes that it will soon entirely cease.

1866.	Mortality in Philadelphia from						
	Cholera Infantum.	Diarrhœa.	Dysentery.	Cholera Morbus.	Cholera.	Total Bowel Affections.	Total Mortality from all diseases.
Week ending Oct. 6,	15	3	6	17	103	144	367
" " " 13,	19	15	5	18	127	184	456
" " " 20,	20	15	7	11	67	110	362

Prize Question of the Connecticut Medical Society.—The subscribers, a Committee of the Connecticut Medical Society, offer the Jewett Prize of two hundred dollars for the best essay on the following question, namely: By what hygienic means may the health of armies be best preserved?

The offer is extended to all physicians and surgeons of the United States and the British Provinces of North America.

In awarding the prize the Committee will regard the literary merits as well as the scientific value of the papers submitted; and if none is received worthy of so liberal a prize, a decision will be deferred and the time extended.

Essays may be forwarded to either member of the Committee on or before the first of March, 1867, accompanied with a sealed envelope inclosing the name of the author.

The unsuccessful essays will remain with the member of the Committee in whose hands they were originally placed, subject to the order of their respective authors.

B. H. Catlin, M. D. *West Meriden,*
L. J. Sandford, M. D. *New Haven,*
Henry Brouson, M. D. *New Haven,*
Sep. 27, 1866. Prize Committee.

New Orleans School of Medicine.—The eleventh annual course of lectures in this Institution will begin on the 12th of the present month (November) and end on the 16th of March ensuing. The number of students during the previous session (1865-6) was 84, of whom 30 received the degree of M. D.

Faculty of Medicine of the University of Victoria College at Montreal.—This is the present title of the "School of Medicine and Surgery of Montreal." Its pupils will hereafter receive university degrees. The course will commence on the 5th of the present month (November).

How to make Autopsies Odious.—We are surprised to notice that a number of respectable physicians of Philadelphia, to whom the body of Probst was consigned after execution, appear to have lent themselves to the publication in the newspapers of the details of their experiments and dissections, which are related in such a manner as to horrify the public mind and foster the popular aversion to autopsic examinations. Had it been the leading purpose to punish the criminal after death, and add to the terrors of the law the terrors of another profession, the plan was well executed. The narrative, as paraded in the newspapers, is admirably calculated to place the hangman and the surgeon on the same platform, and to start the question in the minds of men whom the gallows alone might not deter from crime, whether they are willing,

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in addition to the gallows, to be subjected to the ghastly horrors of galvanism and evisceration, by professional amateurs, in the presence of reporters and witnesses, whilst the flesh is still warm and palpitating. But what bearing has the transaction on the popularizing of autopsies and anatomical dissections in general? The interests of medical science demand the removal of the deep-seated prejudice which affects the public mind on this subject. It is a great question for our profession. Students cannot equip themselves for duty without the means of anatomical dissections. The knowledge of disease and therapeutics cannot advance without post-mortem examinations. But a foolish, though a very natural prejudice, presents a serious obstacle to our progress. And this prejudice is cherished and extended by the association of the hangman and doctor. These professional entertainments, in common parlance, *do not pay*. They cause us to be regarded as ghouls. They furnish some scientific amusement, it is true, but they block up the way to autopsies in every other direction than by the way of the gallows. It is our belief that physicians had better refuse all such unsavory jobs. If the corpse of a malefactor is to be punished or treated with indignity, let it be done outside of the profession. Let our association with the dead, in the public mind, be one of respect and decency, not of wanton mutilation and amusement. Let us claim the necessities of science and humanity as the only basis of necroscopic examinations, and as the proper limit of all such examinations.—*The Pacific Medical and Surg. Journ.*, Aug. 1866.

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Obituary Record.—Died, in Columbus, Ohio, Sept. 4th, 1866, John Dawson, M. D., for many years Prof. of Anatomy in Starling Med. College, Ohio.

—— near Nashville, Tenn, Sept. 19th, 1866, John M. Watson, M. D, Professor of Obstetrics in the University of Nashville.

FOREIGN INTELLIGENCE.

Death from the Inhalation of a mixture of Chloroform and Ether. — Dr. E. Ludlow records (*Med. Times and Gaz.*, Oct. 6, 1866) the following case in which death resulted from the inhalation of a mixture of one part chloroform to two parts of rectified ether. It is not stated whether by weight or measure.

"M. S., aged 40, was admitted into Bristol Royal Infirmary shortly before 11 A. M. on July 15, 1866. She had got a deep punctured wound on the outer side of the right forearm close to the bend of the elbow. Bleeding was profuse. It was plain that the radial artery was wounded. She had got the wound by accidentally dashing her hand and arm through a pane of glass. I was told that she lost a very large quantity of blood before she arrived at this Infirmary. Immediately upon her arrival a tourniquet was placed upon the brachial artery, and a compress and bandage was applied to the wound. This, for the time, stopped the hemorrhage. But it was obviously necessary that the radial artery should be exposed at the seat of injury, and that a ligature should be placed both above and also below the wound in that vessel. I listened to the heart, but I could hear no morbid sound. The pulse was not very rapid; it was of moderate volume, and easily compressible. I then safely administered one drachm of the mixture (of chloroform and ether) on a cup sponge. The first drachm being exhausted, I administered a second drachm. At length this also became exhausted, and I held out a sponge in order that a third drachm might be poured upon it. At this time the woman was insensible, but she was still struggling lazily, and her pulse was of the same character as at the commencement of the administration. During the short moment that I was waiting for the third drachm to be poured upon the sponge, I noticed that the pulse suddenly stopped beating. The respiration also ceased almost immediately; and after this the woman gave no indication of life. I made use of the galvanic battery; I gave enemata of brandy; and I kept up artificial respiration. I continued my endeavours for more than an hour without producing any other sign of life than one or two slight twitches of the abdominal muscles at the commencement of the application of the galvanic current. I desisted from any further attempts because respiration had been suspended for a very considerable time; not the slightest movement of the heart could be detected; and the corneæ had become glazed.

Post-mortem examination about seven hours after death.—Rigor mortis slight. Brain: Very anæmic but firm; each lateral

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ventricle contained about two drachms of fluid; there was also a considerable quantity of fluid in the vertebral canal; no other abnormal appearance was observed within the skull. Lungs: In both there was extensive bronchitic inflammation, a considerable quantity of mucus adhering to the bronchial mucous membrane; a slight amount of emphysema in both lungs. Heart: Pericardium contained about a drachm of liquid; heart itself rather small, and the fat surrounding somewhat abundant; right auricle and ventricle quite flaccid, and containing a very small quantity of fluid blood; tricuspid and pulmonary valves quite normal; left auricle flaccid, and containing a small quantity of liquid blood; left ventricle contracted; mitral and aortic valves normal. Under the microscope it was seen that in the muscular structure of the heart fatty degeneration was present to a considerable extent. Dr. Beddoe, of Clifton, as well as myself, inspected the muscular tissue under the microscope, and he agreed with me that fatty degeneration was present. Stomach: A large portion of mucous membrane on the greater curve was inflamed, corrugated, thickened, and covered with viscid mucus: the stomach contained about five ounces of partially digested food. Intestines apparently healthy. Liver slightly enlarged, fatty, and so very soft that very slight pressure sufficed to drive the finger through the hepatic structure. Spleen tolerably healthy. Kidneys soft; capsules on peeling carried with them minute portions of the cortical structure; cortical substance pale and apparently fatty. Bladder contained a very small amount of urine. Uterus somewhat large, but otherwise healthy. A recent clot was found in the right ovary. Throughout the examination a very small quantity of blood was poured out on division of large vessels, and not a single clot was seen. The right radial artery was found to be wounded close to its origin from the brachial artery. On the one hand there was no condition of disease sufficient to endanger life, and, on the other hand, no organ was thoroughly sound. I believe that death was caused by paralysis of a fatty heart which, on account of the hemorrhage, was insufficiently supplied with blood.

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Clinical Studies on the Injurious Effects of Chloroform on the best Constitutions and all Ages, and on the Necessity of substituting for it Rectified Ether.—This is the title of a paper recently presented to the French Academy of Sciences by Prof. PÉTREQUIN, ex-chief surgeon of the Hôtel-Dieu of Lyons, etc. etc.

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On the Superior Utility of Whole Meal Bread as a Daily Ingredient in Human Sustenance.—By HENRY MCCORMAC, M. D. The disuse of whole meal bread I esteem a positive drawback in our civilization. I do not think that there is an adequate consumption of the food that the grasses, the potherbs, and the beans or pulse, which GOD bestows on us, are so well calculated to yield. Our principal, and really very imperfect substitutes for the production of the vegetable world are wheaten bread and potatoes. Potatoes, to be sure, are a great stand-by, but they are not enough. And, then, in the spring months they deteriorate very rapidly, and no longer constitute a desirable exclusive, or even partial nourishment. Wheaten bread, then, is our great resort. It has come to be the principal representative of the vegetable world. Wheat is a great, nay, an admirable gift of Providence. But we vitiate that gift by our own improvident and injudicious management.[1] Loaves, to save room in the oven, are crammed close together in the act of baking. The consequence of this is that the oven is overheated in order to strike down through the mass of paste. An immensely thick and hard crust is formed at the top and bottom of the loaf, while the rest of it is most undesirably left without any crust whatever. Now, loaves should be crusted

[1] It is desirable for every reason and, especially for the sake of change, to encourage the confection of every variety of really good household bread, griddle bread, loaves baked in a brick oven or in the oven of the close kitchen-range. Potato cake, wheaten cake, rice cake, are all good. When rice or potatoes are used, they ought to be employed warm. A very nice sort of pancake is made from a batter of flour and milk, sweet or sour, and even of flour and water. The poor, and also some who are not poor, use soda in large quantities for raising bread. It is a great mistake, and is calculated to injure the tone of the stomach. Baking-powders are never desirable, and are sometimes quite pernicious. A much better resort is the bicarbonate of soda, baking soda, neutralized by the addition of muriatic acid, so as to convert it into table salt. The following procedure answers well: To every pound of flour or meal add 40 grains of baking soda, a pinch of salt, and a little sugar. Mix intimately. Then add 50 drops of muriatic acid in half a pint of water. Knead smartly and thoroughly. Divide into two rolls, and bake in a quick oven or on a hot plate with a cover.

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all over. The bread would be much better baked, the top and bottom crusts would not be so hard, and the loaf would prove at once more wholesome and palatable. I will not enter here into the consideration of mouldy bread, and of bread with excess of water, and it is all too watery. Nor shall I speak of the various adulterations or perversions to which dishonest persons have had recourse for their own profit and to the public bane. I here wish merely, or at least principally, to dwell on the great evil of omitting the bran in the confection of bread. By leaving out the bran we injure the bread's efficiency, we lose a noteworthy portion of azote as well as a considerable amount of the phosphates, both of them of the utmost moment even when bread is but a partial ingredient in the general nutriment, but yet much more so when, as in the case of hard-working men and women, as well as children, it constitutes the principal sustenance.

The increase of the factory population, together with the ready facility which cooked food, in the shape of bread yields, has led to a vast increase in the use of bread. To a great, and, indeed, most undesirable extent, bread is consumed at the dinner meal, not as a portion, but, along with a little sugared hot water called tea, as in fact the entire nourishment. Owing to the absence of the bran habitual constipation, among those who mainly consume such bread, ensues. And, owing to the partial absence of nitrogen and of the sufficient phosphates, the body is not adequately supported. Habitual dyspepsia and debility, and in females amenorrhœa ensue, and the whole system, along with the bodily powers which ought to sustain that system, deteriorates. The evils which thus accrue from this wretched, ill-baked, watery bread, alike deficient in nitrogen and the phosphates, eaten, as it commonly is, three times daily, I really have no fitting terms to describe.—*Medical Press and Circular*, June 13, 1866.

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Charcoal Pegs for Actual Cautery.—These are lighted and burn like a cigar, the end being somewhat pointed. They should be applied in a direct horizontal line, because pressure sideways would break the point. The composition is as follows: Powdered charcoal, 300 grains; nitrate of potash, 22 grains; gum tragacanth, 75 grains; water, 360 grains. Mix into a mass, and roll it into the shape of ordinary lead-pencil, about three inches long. Very few ashes are yielded, and when any form, they may be blown away, the current of air thus keeping up combustion.—*Lancet*, Oct. 6, 1866.

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Flannel Belts in the French Army.—The Secretary at War has just issued orders for such belts to be supplied to the whole of the French army. They are to be worn on the skin, and are expected to protect and keep warm the abdominal and lumbar regions.—*Lancet*, Oct. 6.

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The Status of the Medical Profession.—[There is unhappily too much truth in the following remarks which we take from an editorial in a late No. (Sept. 29) of the *Med. Times and Gazette.*]

"There is no class of men to whom the public are so much under obligation as to members of the Medical Profession, and it is not too much to affirm that there is no class of men to whom they are so ready to impute evil motives and corrupt practices. The fact is, we believe that the profession are so constantly bestowing benefits on the public, inaugurating charities, undertaking unpaid appointments, and scattering broadcast gratuitously what other men are paid for—their time, their knowledge, and their talents—that the world will not give them credit for having no ulterior motives in their acts. The public will not believe in so much disinterested benevolence, and are delighted to cast off the debt of gratitude they owe by throwing doubts on the source whence the good deeds they profit by spring. Accordingly, any imputation on a doctor's conduct or intention is eagerly welcomed and commented on by a section of the public press with a zest that proves the estimate the writers have formed of the predilections and opinions of their readers. To read the tirades which from time to time appear in some of the daily papers, it might be supposed that doctors were a set of crafty scheming adventurers, wielding deadly agents for evil with irresponsible power, deaf to the voice of conscience and the dictates of humanity, and bent only on obtaining their personal ends. The doings and sayings of no other profession are canvassed with so much prejudice. The enmity which used to be launched against priestcraft is now transferred to medicine. The enormous obligations which are due to the medical

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profession are entirely forgotten, and a charge of moral delinquency against a medical practitioner, whether supported or unsupported by any evidence, is made an occasion for the most merciless personal attack, and too often for insinuating calumnies against the whole body to which he belongs."

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Germs in the Atmosphere.—In consequence of Prof. Frankland's recent letter to the Registrar-General, expressing a belief that the germs of disease might not be destroyed by boiling the water in which they were present, an animated controversy has been going on for the last week or two, and a letter in the *Times* has appeared under the well-known signature "S. G. O.," from which we extract the following important and interesting passages:—

"I know from experiment that there are 'germs,' containing a principle of life, that will stand very strange usage, and yet not have that principle destroyed. Many years since I applied a certain matter to a piece of glass about four inches square. This has another very thin piece of the same material cemented over it close on three sides, leaving a space just sufficient for a thin stratum of water between the two. It has been exposed for days to the action of the direct rays of the sun, it has been kept for months in the dark, sometimes has been for a year or two left without a particle of water touching its surface, in a very dry place. To amuse friends I have again and again allowed a little water, sometimes filtered, generally of the coldest *spring* nature, to fill up the spaces between the two glasses, —water I have previously tested for any living organisms. I have never failed, in a few hours, to produce a most beautiful exhibition of one of the most interesting species of infusoria, having beforehand sketched the exact creature I would produce. With the same water in another glass tank, of the same nature but not so prepared, I fail to produce anything at all until it has been left some days, and then the creatures seen are not my old friends. I have read, not seen, that these organisms retain their vitality even when the glass has been made red-hot. I don't say I believe it, but from what I have seen I think it quite possible. I therefore can believe that, granting water has certain 'germs' which can be detected in it before boiling, which germs, received into the human stomach, become a proximate cause of cramps, &c., some germs might exist with great vitality even after the boiling process. I say *some germs;* I do not believe *former germs* would be visible as such, but, as they are only the development of others far more minute, I can credit the fact that in this, the earliest state of vitality, be it animal or vegetable, the matter of such life may be indestructible even by boiling, unless some chemical agency had added to such boiling its own peculiar life-destroying element. But I think it right to urge another view of the subject. I will assume that water in which these germs are found has been *distilled* and filtered again and again. I will defy any one to say how instantaneously it may receive these same germs on its surface as soon as it is exposed to a polluted atmosphere. There is no surface which can be exposed which is not forever swept by a crowd of organisms floating in the air—aerozoa, as I have named them; many of these we may trace and name, and build theories about them, but there is a vast mass, I believe, which not even the greatest powers of the modern microscope can reach; of those we can see there are very many of which we know nothing; they may be very poisonous, or may have their part in the economy of health. As yet, I am altogether unsatisfied as to their real place in nature be it for good or evil.

"Drs. Lankester and Hogg have of late referred to the investigations made by myself, and published in your columns. It is quite true that these experiments were made at a period of cholera, but I believe I detected nothing then that I could not detect in a healthy season; it is quite possible, however, that 'germs' which in ordinary seasons may be harmless, at peculiar seasons may assume a pernicious character. When, in your columns, I called attention to the possibility of mapping a smell, I had made the attempt. I have the diagrams I then made of the various air-floated matters I obtained from vegetable and animal substances, in a condition more truly expressed by a stronger word than smelling. There can be no doubt that there are floating matters, particles, germs, molecules, fungoid spores, or whatever we may please to call them, which do vary, according to the source from which we obtain them, but I have ever found with these there were others,

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to be found at all times in the purest atmosphere. Agreeing, as I do, with those who attribute the spread of contagious diseases, such as cholera or rinderpest, to certain air-borne particles of poisonous matter, I am still of opinion that as yet no one has discovered any particle of which it can be said that it is the special agent of any special disease.

"My own belief is that the danger from all discharges from patients affected with contagious disease exists at its worst when, having become for a time dry, they are afterwards again moistened through damp warm air, or by any other means. I am also of opinion that in a dry state they may give off to draughts of air minute particles, which finding a nidus on any moist mucoid surface, would thus infect. Cleanliness in a sick chamber cannot be too thorough; a cartload of linen and other articles might be sent to the laundress every day, and yet a yard square of dirty linen or of dirty furniture of any kind left for a few days would defeat the most liberal and otherwise careful attempts to keep all things clean. As to the question of boiling water before use, there can be no doubt that it is most advisable, for you do thus give it the best simple purification in your power. I wish people could be persuaded of the fact that no liquid to be used in cooking in any way as food or medicine should ever be exposed to the action of the atmosphere in a bed-room, sick-room, or ward but for the shortest possible time. If patients must have water, lemonade, &c., handy to them at night, let these be kept in stoppered bottles. Let any microscopist expose plain water, gruel, tea, milk, or barley-water, in shallow thin glass plates to a night's air in any bedchamber, sick-room, or hospital ward, and then carefully examine the surface with a good microscope; he will satisfy himself of the fact that such surfaces are of all others, those which receive, to *detain*, a great deal that, for all that we know, may be very deleterious.

"I don't know what water butts may be in London; I know that they are very valuable in the country as breeding places for some of the most interesting organisms we ever exhibit to friends with the microscope. In London I should expect to find them most gratefully prolific. Water originally but partially pure, kept in rotten wood, which probably never was clean, surrounded by all kinds of dirty things and beings, in an atmosphere ever odoriferous, the bottoms and sides of the butts never cleaned, so that vegetation at the sides is nourished by the accumulated deposit at the base, must ever be water of great microscopic promise. I can quite conceive a glass of clean pure water twice a day acting as a powerful tonic alterative in the case of people who have been thus for years vegetarians and insectivorous by compulsion."—*Med. Press and Circular*, Sept. 26, 1866.

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Paris Faculty of Medicine.—This body is likely soon, it is said, to undergo considerable change in its *personnel*, and not before this is required, if it be true, as stated, that no less than seven Professors are incapacitated by age or illness, not to mention M. Trousseau's imminent resignation. The chair of Clinical Surgery, lately filled by M. Jobert, now hopelessly insane, is, it is said, to be immediately filled up.

—

Insects Fabricators of Iron.—It is well known that some insects are skilful spinners, but it was not known that some of them fabricated iron. A Swedish naturalist, M. de SJOGREEN, has published a curious memoir on this subject. The insects, in question, are almost microscopic; they live beneath certain trees, especially in the province of Smaland, and they spin like silk-worms, a kind of ferruginous cocoons, which constitute the mineral known under the name of "lake ore," and which is composed of from 20 to 60 per cent of oxide of iron mixed with oxide of manganese; 10 per cent. of chloric and some centimetres of phosphoric acid. The deposits of this mineral, may be 200 metres long, from 5 to 10 metres wide, and from 8 to 30 inches thick. —*Rev. de Thérap. Méd.-Chirurg.*, Sept. 15, 1866.

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The New Edition of the French Codex.—It is announced that the new edition of the *Codex Medicamentarius, Pharmacopée Française* will shortly be published. The preface to it, by M. J. Dumas, President of the commission, is published in the *Revue de Thérapeutique Médico-Chirurgicale*, Sept. 1866.

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OBITUARY RECORD.—Died, of cerebral congestion, Sept. 16th, 1866, aged sixty-eight years, M. MÉLIER, Sanitary Inspector-General, and one of the most laborious and ablest exponents of Sanitary Science and public hygiene.

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PUBLIC HYGIENE.

Address on Public Health, delivered before the National Association for the promotion of Social Science at its Tenth Annual Meeting, held at Manchester in 1866. By W. FARR, M. D., F. R. S.—Public health is the subject of inquiry in your third department. Every life here, the life of every community, is surrounded by dangers, which it is the business of science to study and of art to avert. These dangers are of various kinds, and spring from various sources. Enemies abroad and criminals at home are dangers to which every government is alive. There are other dangers not less formidable. Famine now ravaging India, cholera in Europe, early deaths, sufferings in hospitals, fevers in homes, are instances of a class of dangers that we seek to investigate, avert, and disarm.

Health implies more than existence; it implies energy in strength and in intellect. In Anglo-Saxon one word—*hael*—designated healthy man, hale man, brave man, hero; and *háelend* was healer, saviour. These simple but noble conceptions it is our business to bear in mind. Development, as well as conservation of life, is the aim of public hygiene—the name by which our science is known in the Continental schools. Private hygiene deals with individuals, public hygiene with communities; but, inasmuch as nations are aggregates of men, it is evident that the division into two parts is only made for the convenience of study and of administration. Some things a man can do himself, others can only be done by town councils and imperial governments. It will be an advantage to confine our discussions to the field of public health.

As political economy rests upon the idea of value, so our science rests upon the idea of health, and it is as important to us to find a measure of health, as it is to the economist to find a measure of value. Tha

Published monthly by HENRY C. LEA, No. 706 & 708 Sansom Street, Philadelphia, *for One Dollar a year; also, furnished* GRATUITOUSLY *to all subscribers of the "American Journal of the Medical Sciences," who remit the Annual Subscription, Five Dollars, in advance, in which case both periodicals are sent by mail free of postage.*

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measure must be simple, and applicable to all countries. Now, the measure that is in universal use is the rate of mortality: a unit of life loses a certain fractional part by death every moment, and the amount of loss in a unit of time expresses the rate of mortality. The unit of time is always a year, and the rate of morality is found by dividing the deaths by the mean numbers living multiplied into the time. The rate varies from ·020 to ·040 in England—that is, in one place the deaths are 20, in another 40 to 1,000 living. Indeed, the range is still greater without a correction to which I will shortly advert.

In the normal community constituted of persons of all ages by an equal number of annual births, there is a fixed mathematical relation between the rate of mortality and the duration of life. Thus, if the average rate of mortality in two cities is 2 per cent., then the mean duration of the lives of the inhabitants is 50 years in the one city and 25 years in the other. Therefore in saying that rate of mortality measures, it is conversely affirmed that length of days measures the health of nations. As the population fluctuates, certain corrections are necessary; the rates of mortality are determined at various ages, and from these the probabilities of living year by year are calculated and set forth in a life table that determines the path every generation passes over from rising to setting.

The mortality is really a life measure, for the people living to a given sum of births increases in exact proportion as the duration of life increases.

If it is only an indirect measure of some of the elements of health, according to our larger definition it expresses in masses the sickness, measures very accurately the influence of a variety of causes on life, and is a safe guide in practice.

Public health now engages the attention of every civilized state; so we can pass in review the principal populations of Europe, and from the researches of their own statists learn by this measure their comparative health.

I take the population in the lowest stage of health first, beginning with Russia. That empire is emerging from barbarism; and its condition enables us to conceive the state of the population of Europe in the dark ages. The people of various races between the Caucasus and the Arctic Ocean, the Oder and the Ural Mountains, die at all ages, from birth up to 140 years it is said, but their mean lifetime is only 25 years.[1] The marriage rate is 10, the birth rate 45, the death rate 36 (per 1,000 is always understood unless another scale is mentioned). Thus birth, marriage, death, succeed each other rapidly among the sixty millions of people diffused over nearly two million square miles of steppes, forests, farms, and river-side pastures. In Archangel, where the greatest extremes of cold are experienced, the mortality is nearly the same as it is in England; in Esthonia and Courland, on the Baltic, the rate is low; so it is in Finland; while about the Caucasus, the Black Sea, and the Caspian, it ranges from 40 to 52.[2] Whenever the mortality is excessively high in any place its causes can now almost always be discovered; they are familiar enough to us in England, but as they take different forms in different countries, and are the subjects of inquiry in Russia itself, it is not my intention to dwell on them. Russia has emancipated her serfs. Russians have taken a conspicuous part in the international statistical congresses; they are frequently inquiring into what is doing in England; and, if I mistake not, English engineers are now engaged in the water supply of one of their capitals.

Italy, extending from the Alps across the middle of the Mediterranean, offers a strong contrast to Russia; it is divided by the Apennines, breathes the air of the sea, is not frozen by hard winters, is the home of the arts, and inherits the renown of the empire of the world. But the Italian people suffer much; few live to their natural term; the death rate is 30.[3] I speak now of the new kingdom of Italy. The death rate in Piedmont and Lombardy, and in the islands of Sicily and Sardinia is 29; south of the Po, in Parma, 35; Modena, 31; Romagna and the Marches, 31; Tuscany, 33; Naples, 35; Umbria is the healthiest province of Italy, rate 27; and Rome, thanks to her aqueducts, is perhaps the healthiest city in Italy. Venetia, under the Austrians, was in health on a par with Tuscany, 33. It is a peculiarity of Italy that the population of the country is as un-

[1] Reg. Gen. 6th Report, p. 327.
[2] Ibid., p. 330.
[3] Three years, 1862–4. Reg. Gen. 27th Report, p. xxxviii. The mortality of provinces is for the year 1862.

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healthy as that of the towns. This low standard of health is the fruit of the former state of things as the new Government has had little time to do more than bring the evils to light, which luxuriated under small paralyzing despotisms. As the science of Italy reveals the evils and their causes, the people will find remedies; and among the first will probably be the restoration of the great drainage works and the magnificent aqueducts of their ancestors. Improved health will increase the military power of Italy.

East of Italy is Greece, which holds only a fraction of the Greeks, about whom little can be said; and Turkey, Syria, Egypt, North Africa. All known about these fine regions of the world is that they are desolated by diseases, are unhealthier than Russia or Italy, and are nurseries of the plague that subjects Europe to the vexatious oppression of quarantine.

Spain, lying west of Italy, between the Mediterranean and the Atlantic, mountainous, and divided by deep cut rivers, was perhaps, when she colonized South America, the healthiest country of Europe. The death rate of Spain is now 28.[1]

Between Italy and Russia, on the Danube, extending from the Carpathians to the Adriatic, lies the Austrian empire, full of natural resources and pervaded to a considerable extent by the industry and science of Germany; yet the death rate of Austria is high; it is 30.[2] The mortality of Prussia is not quite so high; it is 29; in Bavaria, on the Upper Danube, it is 29; in Saxony, on the Elbe, 29. At such rates 72 millions of Germans and their associated races die. In none of these countries do the people live on an average 30 years.

We now enter a healthier region of Europe, of which England is the centre; where the people live, on an average, 35, 40, or 50 years, and where a fuller life is enjoyed. Take Norway, for example, with its Udal proprietors along fiords and streams; there the mean lifetime of the people is full 50 years. The death rate is 17; the birth rate is 34. They are, as the old sagas teach us, at home on the ocean, and emigrate freely. In Sweden as well as Denmark the mortality rises to 22; and the mean life time of the Scandinavians is about 44 years.

[1] Four years, 1861–4.
[2] Eight years, 1857–64.

Sweden I may remark, is famous in our science for furnishing Dr. Price with the data from which the first national life table was constructed. In Hanover the death rate is 23; and in Holland, on its canals and river deltas, where the greatest natural sanitary difficulties are found, the mortality is 26,[1] the mean lifetime is 35. In Belgium other difficulties have sprung up; the population is the densest in Europe, thanks to its industry; but the death rate little exceeds 22. If we ascend the Rhine to Switzerland, we there find several healthier cantons.[2]

In France, that varied and beautiful land lying between England and Italy, Germany and Spain, the death rate was 23; in the last year or two it has fallen to 22, as low as that of England.

No variation in the health of the states of Europe is the result of chance; it is the direct result of the physical and political conditions in which nations live. This is so well understood that the people of every country are associated with you in these inquiries, and are watching the progress of the great question of public health in England. Yet its vital importance is nowhere fully recognized; its influence in the history of mankind is lost sight of in the din of war, and in the terrors of revolution. With what just eloquence have Burke and the historians of all nations denounced the furious executions of Paris. But in Germany, including districts under paternal well intentioned sovereigns, some 300,000 men, women, and children are killed every year by diseases, in excess of the numbers dying of the same diseases in France.[3] Under the indolent princes of Italy, the annual life loss in excess exceeded 150,000 lives annually. Not to save in some circumstances is to destroy. Can we wonder, then, at the feverish uneasiness of those great populations, whose instincts have led them at last to coalesce in powerful states?

I now ask you to consider the sanitary state of the United Kingdom. The rate of mortality is 22. The rate is nearly the same in Scotland, England, and Wales. But how fares it with Ireland? Well, as

[1] Sweden, 1841–55, males, 41.28; females, 45.60. Holland, 1850–9, males, 34.12; females, 36.43. Berg and Baumhaug. See paper by Hendrick, F. Stat. Soc., vol. xxvi. p. 423.
[2] 1857–64.
[3] The mortality in France 1853–62 was at the rate of 23.82; Prussia 1851–60, 29.00; Austria 1857–62, 30.38; Italy, 1862, 31.28.

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far as official documents go, the death rate of Ireland is 17; and, after every allowance for defects in registration, which has only been recently established, I do not think the death rate of Ireland can be set higher than that of Scotland.

From the English Life table we learn that the mean lifetime of the nation is 41 years (40.85).[1] and this implies a corrected mortality of 24 (exactly of 24.47) annually, whereas by the ordinary method the mortality is 22 (or 22.45). The difference arises from the increase which throws into the population a mass of young persons at ages when the mortality is below the average. The average age of the dying is reduced from the same cause—it is 29 4 years. Similar corrections of the mortality are required, and will ultimately be made, in other countries.

The mean age of the population by the Life Table is 32 years; the mean age of the enumerated population in 1861 was 26½,[2] the difference of 5 5 years arises from the same cause. If a normally constituted population has lived 32 years, it will live 32 years under the same law of mortality;[3] but in England the age of the people is now 26.5 years; and they will live 35 6 years on an average. As they are younger they have an ampler prospect of life before them than a stationary population.

You are aware that more boys are born alive than girls, and the boys dying in greater numbers, this provision of nature brings the sexes nearly to an equality of numbers at the age of marriage. Thus, of 1,000[4] children born in England, 512 are boys, 488 girls; 334 men, 329 women, live to the age of 20. The excess of boys is reduced from 24 to 5; and if there was no emigration and foreign service, the men of the age 20–40 would exceed the women in number. An unchanging 1,000,000 of annual births will produce, according to the law of vitality in England, a population of 41 389,940, consisting of 20,426,138 males, 20,432,802 females, large numbers differing quite inconsiderably.

The births registered in the United Kingdom in 1865, exclusive of the islands in the British seas, amounted to 1,006,223, and this is below the actual number, as all the births are not registered in Ireland or England. The population of the United Kingdom, including the islands, is now estimated at 14,775,810 males, and 15,553,397 females. England differs from the other countries of Europe in this respect;[1] it has 250,356 men in the Army, Navy, and merchant service abroad, on the seas, and in English possessions. This leaves 14,525,454 males at home, against 15,553,397 females. The females exceed the males in the United Kingdom by 1,027,943. After deducting the men abroad having English homes, the number is reduced to 777,587 women. The proportionate number is greatest in Scotland, least in Ireland.

Nevertheless, if our calculation is correct, the men must be somewhere in existence; and, in fact, in America and in Australasia alone at the last census, the males found exceeded the females by nearly a million (972,530). Allowing for the share of other nations in the surplus, there can be no difficulty in identifying the men of which the 777,587 women at home complete the calculated couples. The men are in Newfoundland, New Brunswick, Canada, Australasia, and the United States, whither the women have hitherto hesitated to sail from home across the ocean; but with constant magnetic communication, commercial intercourse, and the intimate union of the people on both sides of the seas, the equilibrium of the sexes cannot fail, in the end, to be re-established.

It is gratifying to find that the health of the English race on the other side of the seas, so far as we can judge from imperfect documents, is not worse than it is in England; and that those rising communities are eager to adopt all the sanitary improvements of Europe. In some respects they have gone ahead of Europe; I may refer to the magnificent aqueduct pouring the fresh streams of a mountain river into New York since the year 1842, when Paris and London were drinking polluted waters from the Seine and the Thames.

A word on the growth of population in England, which is unquestionably one of the weightiest of all our hygienic problems. The population of the United Kingdom was 16,302,410 in 1801; it is now 30,329,207.

[1] "English Life Table," p. 22, based on returns of population, 1841 and 1851; and 6,470,720 deaths in 17 years, 1838–54.

[2] "Report on Census," 1861, p. 110.

[3] See this curious law demonstrated in "English Life Table," Introduction, p. xxxii.

[4] See "Life Table," p. 24.

[1] Census Report, 1861, p. 5.

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Population naturally increases in geometrical progression; and in this country the rate of increase was very uniform during the fifteen years of war down to 1815 and the fifteen years following. After the reform of Parliament and Catholic emancipation, so well calculated to content the people, the rate of increase decreased slightly down to 1841; and then rapidly, after the potato blight and the repeal of the corn laws, during the exodus, down to 1851; and since more slowly. The decennial rate of increase was 15 per cent. (1821–31), 11 per cent. (1831–41), and in the last decenniad (1851–61) it was 6 per cent. Thus our population increases at a decreasing rate. In the first thirty years of this century the addition to the population was 8,121,178, in the second thirty years it was 4,935,339. The rate of increase was 50 per cent. in the first and 20 per cent. in the second period.[1] The great perturbation took place in Ireland, where the population rose 2,000,000 in the first, and fell 2,000,000 in the second period. In England the population increased steadily 5,000,000 in the first, 6,000,000 in the second period.[2] The change in the rate of increase is due to no decrease of energy, but to the flood of emigration, for the population, like a mighty river, flows into America and Australasia. The population of the American Colonies, of the United States, of Australasia, and of the United Kingdom was 20,000,000 in 1801, 38,000,000 in 1831, and 65,000,000 in 1861. Here is an increase of 18,000,000 and of 27,000,000, or in the aggregate of 45,000,000 in sixty years; and after deducting sufficient numbers for the increase of alien races, a residue of increase is left equal in its multitude to the present population of France. The English race thus unites Europe with America, and attains, while multiplying freely on both sides of the Atlantic, nearly the same standard of health.

I have, in this rapid survey, necessarily treated the health of nations collectively; but each nation consists of parts differing widely in health. Thus, in Prussia the death rate is 25 in Pomerania, 36 in Posen; 25 in the Rhine provinces, 36 in Prussia proper. France presents similar disparities. And in no countries are the disparities greater than in England. Districts of this kingdom, more populous than Norway, are as healthy as Norway; whilst several of our cities teeming with industry, intelligence, wealth, and population, pay a death-toll as high as Russia. I enter into no details, because this subject has been discussed in the section by gentlemen deeply interested in these districts, who have developed the facts, and have been able, after laying bare the causes, to say that they see the way to effectual remedies; so that in city and village alike the health of the people may increase faster than their numbers.

In the great Arsenal, at Woolwich, the other day, I was much struck by the vastness of the operations: there you see the latest inventions of chemistry and mechanics turned to account; children, stalwart smiths, engineers, and men of science are all engaged in casting bullets, making cartridges, filling costly Armstrong shells, building up ordnance of terrific power to arm iron ships, or inventing new explosives. I confess that the thought that ever bullet was cast with the deliberate intention of killing a man, made an impression on my mind; and this was deepened by the reflection that the Arsenal is necessary, as similar operations are going on all over Europe. Nations are passionate rivals in the art of destroying life in war. Why should they not throw the same ardor into the art of salvation in time of peace?

Life can be saved by studying the causes of its destruction—injuries and diseases. Lightning had no sooner been identified with electricity, than Franklin invented the lightning-conductor. With his knowledge of flame and gases, Davy invented the safety-lamp, to save men from the terrible effects of explosions. The same object is secured now effectually by the improved ventilation of mines. Fire-escapes and fire-guards save hundreds of lives from the flames. Lifeboats rescue mariners from the waves. Chemistry finds antidotes for poisons. Surgery, armed with Harvey's discovery, ties bleeding arteries. From Jenner, Medicine has learnt by vaccination to prevent smallpox. And this brings us to the class of zymotic disease, over which new power has been acquired recently by the discovery in England of the laws of its propagation.

A surgeon dips a lancet into the pustule of a smallpox patient; on its point is a

[1] The first ratio $r = 1.4981$, the square root is 1.2239; which is nearly the second ratio = 1.2021.

[2] 4,933,467 in 1801–31, and 6,124,854 in 1831–61; or 54 per cent. and 44 per cent. on the population.

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drop of transparent lymph; and that lymph, mixed in the blood of a child that has not before had the disease, reproduces the lymph in new pustules, which will again propagate the disease among other children. The matter is volatile, and other children brought into the same atmosphere, are said to catch smallpox. If the lymph is derived from a cowpox pustule, it reproduces cowpox. In large lying-in hospitals it has been found by repeated experience that childbed fever, or what I call *metria*, is generated: one woman falls ill, other women take it; every fresh patient that enters dies; and if the hospital nurse attends a lady out of doors, that lady will probably die of childbed fever. Erysipelas, pyæmia, and gangrene are generated when you crowd wounded soldiers in military hospitals; and the specific matter of each of these diseases produces the same specific diseases in other soldiers.

Typhus has been generated in gaols, and has infected the judges in courts as it infects physicians in fever hospitals. Here is a large number of diseases which we know how to produce; and a second group equally numerous we know how to propagate—such as measles, scarlatina, hooping-cough, and smallpox. In the statistical nosology I classed all diseases of this kind together, under the head of zymotic diseases; and in the analysis of morbid phenomena gave names to the different species of matter generated in each malady. Thus, selecting a few, the matter of smallpox (variola) is called *varioline;* of cowpox, *vaccinine;* of erysipelas, *erysipeline;* of scarlatina, *scarlatinine;* of syphilis, *syphiline;* of typhus, *typhine;* of dysentery, *enterine:* of cholera, *cholerine*.[1] These matters introduced into the blood directly by inoculation, or by air, or by water, only induce their transformations in a certain number of the persons exposed to their action. They vary from day to day in strength. Cases of smallpox, for instance, occur every week in London: few children die of smallpox for weeks together; when suddenly the *varioline* becomes active, is multiplied with redoubled velocity, destroys large numbers, and after a time again becomes quiescent. All zymotic diseases follow this law, and are hence called epidemics, endemics, plagues; which, as their cause is not evident, have often been referred to supernatural agency. In their course they are generally influenced by atmospheric vicissitudes: but the zymotic stuff probably acquires its extreme diffusiveness in some wretched families under hygienic conditions that favour its creation. Asiatic cholera thus originated in the delta of the Ganges, in spots where the huts are on mounds, surrounded with pits, which are the receptacles of dejections and of the stagnant water the natives drink. Jameson says, "Bad water no doubt sometimes immediately induces the disorder."[1] In India they had advanced scarcely any further in the etiology. The English reports on the epidemic of 1832 and the elaborate official French report[2] discussed all the conditions except one likely to influence its course, and their results were purely negative. They stated, but did not solve, the problem of the disease. The English system of registration was established in 1837, and in the epidemic of 1848–49 the age, profession, date of death, and the place of death of each person by cholera was published by the Registrar-General in the London weekly tables of mortality. These tables were freely distributed among men of science, who had thus an opportunity of studying the facts. London presents a favourable field for the analysis of epidemics. It has a vast population, spread over a large area at different elevations, arising from ground below the Thames level to Hampstead and Norwood. The population exists in every degree of density, in every degree of poverty and wealth. It was supplied in 1849, by eight companies, with unfiltered water, some of it drawn from springs, the rest from different points of the Thames and its tributary the Lea. At that time the sewers of London poured their contents into the Thames at different parts of its course, so that the waters of the companies differed very much in impurity. At Hungerford Bridge it was charged with soil, and higher up the tidal stream the water was comparatively pure. It was immediately found, on examining the returns, that cholera was much more fatal on the south side of the Thames than on the north; and at the close

[1] Registrar-General's 4th Annual Report, 1842, pp. 186—216.

[1] Cholera Report to Reg.-Gen., p. lxxxvi.
[2] Rapport sur la Marche et les Effets du Cholera Morbus dans Paris, 1834.

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of the epidemic, calculation showed that the mortality had been at the rate of 41 on the north, and 120 in 10,000 on the south banks. The two populations differed in many respects, and further analysis was necessary. The population in 38 districts, each[1] a large city in magnitude, was variously grouped according to (1), wealth determined from rated value, (2) density, (3) elevation, and (4) water supply. It was shown that density and wealth in their different degrees had an influence on the mortality of the epidemic; but that the effects of these influences were completely overwhelmed by the influence of water and of the elevation of the soil. Thus, the six districts supplied with the least impure water lost, in every 10 000, 15 by cholera; the fifteen districts getting still more impure water lost 487; those getting the water from the parts of the Thames saturated with sewage lost 123. The air and the water of wells, and the water containing impurities in suspension, running along tubes underground from the river up the sides of heights, contain different amounts of such matter in suspension running along tubes underground from the river on the sides of heights, contain different amounts of such matter in suspension at different elevations; and it was found that the mortality ranged from 174 deaths by cholera in 10,000 people on a level with the Thames, to 99 among those living on ground 10 feet higher, and thus the mortality fell to 53, to 36, to 27. to 22, to 20, to 8; as you ascend, 30, 50, 70, 90, 100, 350 feet above Trinity high-water mark. In the epidemic of 1853-4, and in the epidemic of 1866, the same laws prevailed.

That was all that could be rigorously determined in 1848-9, and the experiment was incomplete, as the drainage of the ground and other conditions in which the people of South London lived differed in many respects from the corresponding conditions on the north side of the Thames. South London is supplied chiefly by two companies. In the interval between 1849 and 1854 one company supplying South London was driven higher up the Thames, and got above Teddington Lock water uncontaminated with London sewage, while the other company still drew its water in 1854 from the impure stream below. Here was an experiment on a grand scale. Asiatic cholera was epidemic once more, and retained its full power of destruction in the districts still supplied with impure water; but it was immediately discovered in the returns of the weekly tables that the mortality in the districts supplied with the better water was diminished. The difference was striking in houses of the same street supplied by the two companies, and it was observed every week in every district. After the epidemic was over the two companies furnished lists of all the houses which they supplied, and when the deaths by cholera in these two classes of houses, both in 1849 and 1854, were taken out at the General Register Office and tabulated, the result satisfied the Committee for scientific inquiries of the Board of Health[1] that the dimipished mortality was due to the change in the quality of the water.

This reasoning involves no theory. The result is arrived at by induction drawn from a vast number of instances all concurring. But I am bound to notice here an important theory which was advanced in 1849 by Dr. Snow, a London Physician, who died young, but whose name will not perish. This, in a few words, is Snow's theory:—The rice-water discharges are to cholera what the lymph (varioline) is to smallpox; the matter is generated in the body, it is multiplied in the intestines, and diffused by direct handling or by water and, I should add, by air in certain states carrying it suspended as dust—cholera-dust.

Dr. Baly, in his admirable but cautious report to the College of Physicians, decided against the theory, and, in fact, the evidence then in its favour was not conclusive. But Dr. Snow persevered; he collected instances of the communication of the disease through pumps, wells, and rivers: and, in 1854, inquired at every house of certain districts where deaths from cholera occurred in Southwark. Thus he collected many new confirmatory facts. Some links had been left incomplete in the verification of the law that cholera matter (cholerine) is diffusible through water; these have been supplied in the present year partly by what I cannot but consider a deplorable accident.

[1] Registration Districts of London, 36; two were subdivided.

[1] The Committee consisted of Arnott, Baly, Farr, Owen, Simon. The subsequent report by Mr. Simon gives the final results of the Committee's investigations.

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South London, it will be recollected, was still supplied with impure water in 1854 by one company (the Southwark), and it suffered severely in the epidemic of that year. In the field of the other company (Lambeth), the mortality was much reduced, but was not inconsiderable. In 1866 South London was supplied with water by the two companies from the purer sources; the shallow wells were dried by the metropolitan drainage, and the deaths by cholera in all the districts, holding 873,548 people, were not so numerous as the deaths had been in 1854 in a single district. Thus you have these sequences, in the Lambeth field, impure water, 1849, cholera terribly fatal—pure water, 1854, cholera much less fatal; in the Southwark field, impure water in 1849 and in 1854, cholera terribly fatal in both years; in 1866, both field with pipes interlaced, in South London, supplied with the purer water—mortality from cholera comparatively slight, but sufficient to remind us that the water is not yet perfectly pure.

Cholera had been epidemic in the continental cities since 1865, but London rested secure, expecting to escape with comparative impunity, when lo! in July, the weekly deaths by cholera sprang up from 6 to 14, to 32, to 346, to 904, to 1053, with an unexampled velocity, and threatened to renew all the horrors of the former plagues. The weekly returns showed that multitudes of men, women, and children, spread over an area of about ten square miles, were indiscriminately struck down by diarrhœa or cholera.

In East London 3613 people perished in six weeks. The great destruction of life occurred in every district, nearly every sub-district, supplied from the Old Ford reservoirs of one of the eight London companies, and to the same extent nowhere else. These reservoirs are close to the Lea, which is a tidal river, polluted with the sewage of West Ham and of East London. In Manchester the water is immediately under the control of the Town Council, and you can know all about the supply; but in London that is not the case, as the water is supplied by private companies on strictly commercial principles. The directors are not bound to tell us precisely what their servants do, and they have not done so; but circumstantial evidence irresistibly shows that polluted water was distributed over all the area of extraordinary mortality during a certain number of days, with the same result as in previous epidemic years. The source of mischief was no sooner pointed out than the plague began rapidly to decline; it appeared to be under control, and the mortality by cholera in East London is now as low as it is in the rest of the metropolis.

When zymotic matter or any impurity is thrown daily into the mains, pipes, butts, houses, and, I may say, bodies of a population, it is irregularly distributed, and requires many successive daily changes to eliminate it; thus, when impure water is supplied for three days only, it may take thirty days to eliminate it. This may be demonstrated mathematically, and be illustrated by experiment.

I may add that, although the distress from the loss of thousands of children and parents in an epidemic is never wiped away, yet in East London it has been mitigated; the people behaved with courage and patience; they helped each other in danger, and they were helped by enlightened English charity. The Queen herself came to their relief; Mrs. Gladstone, Miss Marsh, Miss Sellon, and Miss Louisa Twining, treading in the steps of Miss Nightingale, administered relief to the sufferers; the Bishops of London and the Lord Mayor upheld the honour of their high office by indefatigable services. The medical men, and, it is right to add, the clergy, nobly did their duty; the local authorities, to a greater extent than they ever did before, carried out the judicious recommendations of the Privy Council. House-to-house visitation was in many cases in use for a time.

By these means, by the exertions of the engineers of the companies, and by the early discovery of the source of the terrific mortality in East London, the plague has been stayed; we now know how Asiatic cholera can be subdued. In London twenty thousand lives have been saved. This is an achievement of the science of health which reflects some glory on England, and of which all the world will enjoy the advantage. It is due to many years of labour—to the labour of Jameson, Scott, Orton, Balfour, Martin, Parkes, in India; to Sutherland, Smith, Baly, Gull, Simon, and especially to Snow, in England; to the English registration of deaths, which enabled us to demonstrate by several experiments

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in the largest city of the world, the fatal effects of water tainted by impurities.

How did it happen that the disastrous effects of the diffusion of this matter through water were not discovered in Paris or elsewhere? For this simple reason, that when the observer has under his eyes a population all supplied with impure water, he cannot logically refer the effect to the specific cause. For this happens in cholera, as in all zymotic diseases, only one individual in a given number is susceptible; for the sake of illustration, say 1 in 4. Only one in the number susceptible (say 1 in 5), by chance comes in contact with the stuff; and only one vessel of water in a given number (say 6) contains a dose strong enough to induce Asiatic cholera, as it is called. Then, by the doctrine of chances, only 1 in 120 (that is, $\frac{1}{4} \times \frac{1}{5} \times \frac{1}{6}$) will be attacked, and about 1 in 240 will die of the disease. Great numbers will be attacked by diarrhœa and milder forms, but 119 will not be attacked by cholera while 1 is attacked. Here are 119 instances in favour of and 1 against the water.

In the worst district of the East London field 193 in 10,000 people died of cholera. Say that 386 were attacked, then 9614 were not attacked, and the health officer might reason thus: 9614 persons in this district exposed to the cause—water—were not attacked, therefore the disease was not caused by the water; and of the 386 attacked some drank no water, the fact being that they were tainted in other ways. This logical difficulty is the origin of the greater part of the disputes on contagion. We overcome it by comparing the mortality of cholera in all the East London districts, the Lambeth districts, the Southwark districts, with the mortality of all the districts—many of them similarly situated as to condition—supplied with water from other sources. As the difference is uniformly enormous in successive trials at distant dates, the conclusion is irresistible.

In Manchester the people have, with great credit to their intelligence, secured a supply of pure water; in fact, the systems of Manchester and of Glasgow are models to other cities. But Manchester retains the excreta of the sick from all zymotic diseases, with other impurities, close to the dwellings and under the faces of the people. By comparing the mortality of the city so organized with that of London when the metropolitan drainage is in full operation, and with that of other cities where such matters are now carried off by water, you will be able to analyze the effect of your system of arteries without veins, and I suspect that it will be decisively condemned by the result. The effect of a multitude of other causes on health, such as overcrowding, uncleanliness, and drunkenness, can be tested by the same methods.

To render our investigation of causes affecting public health complete, there should be a public registration of every form of sickness and infirmity, as well as tests of strength by the quantity of work performed, either mental or muscular. The conscription and recruiting examinations are the only tests now in use.

The sanitary society in Manchester has commenced some work of this kind, and will, I hope, persevere. In the diffusion of sound, practical, sanitary information, the Ladies' Sanitary Association in London has already rendered services which we are bound to recognize. The Universities of England will, I hope, teach, as the Continental Universities do, the doctrines of public health, and by recognizing the doctrines in granting degrees, as suggested by Mr. Rumsey, they will promote the health of their country. Manchester and all our cities will, like Liverpool, Glasgow, and some districts of London, have accomplished officers, educated in the end specially for the purpose, keeping incessant watch over their health, like tutelary geniuses, and doing good not only to the inhabitants, but to mankind.

For what good has been done hitherto by hygiene, however striking in building up healthy generations, is nothing compared with what remains for it to accomplish in times to come.

Let there be a small ratio of improvement among the millions born every year in the successive generations of our own race—in the races of Europe—and under that law of geometrical progression even with which the world has been sometimes terrified unreasonably, mankind will attain a degree of excellence of which we have no conception. Healthier, happier men may become as by miracle only a little lower than the angels in the golden age, the paradise of the future.

How far we are from this consummation we are reminded by the losses of our friends and fellow-labourers. Since we met last

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year, Sir Charles Hastings, President at York of the Health Department, is dead. He was a man most friendly in his nature, and devoted himself to the organization of a great Medical Society for the promotion of science. His life was crowned with success; and he had the supreme felicity of seeing his son lay the foundations of this Association, in conjunction with some of the greatest and some of the best men of the age.—*Med. Times and Gaz.*, Oct. 13, 1866.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Health of Philadelphia.—The bill of mortality for the last five weeks, which we give below, shows that cholera and bowel affections have gradually diminished, and that, during the past week, not a single death from the former disease has been reported. The first cases of death from cholera were in the week ending July 14th, when 3 deaths were reported, and it reached its height during the week ending Oct. 13th, when the deaths were 127; thus the disease prevailed during a period of 18 weeks, which is rather longer than the average period of its prevalence in any one locality.

The highest mortality from bowel affections as well as from all diseases, was, during the week ending July 21, when the deaths from bowel complaints numbered 238 and from all diseases was 716; while during the week ending Nov. 24, the deaths from the former had dwindled down to 7 and the general mortality to 255. The health of the city may be now regarded as good. The only disease in which we find a marked increase is scarlet fever, the mortality from which during the week ending Nov. 24th, was 20.

1866.	Mortality in Philadelphia from						
	Cholera Infantum.	Diarrhœa.	Dysentery.	Cholera Morbus.	Cholera.	Total Bowel Affections.	Total Mortality from all diseases.
Week ending Oct. 27,	7	6	3	4	43	63	295
" " Nov. 3,	4	3	9	4	41	61	285
" " " 10,	4	6	1	2	19	32	263
" " " 17,	0	4	1	0	5	10	233
" " " 24,	1	2	0	4	0	7	255

New Hampshire Medical Institution, Dartmouth College, Hanover.—At the annual commencement of this institution held on the 31st of October, the degree of M. D. was conferred on 28 candidates. The increase of fees, it is stated, has not diminished the number of students, the class not having been larger except at one session, for the last twenty years.

University of Michigan.—Prof. Samuel G. Armor writes to us that "the class in the Medical department of this University the present session numbers over 500. Our students come from a great distance. I believe every State in the Union is represented; besides quite a number from Canada and other foreign countries.

"The steady and rapid growth of the University has been very wonderful, and especially when we reflect that it costs a student at least *twice* as much as any other school west of the mountains, St. Louis alone excepted. The Regents charge $30 for every student *out of the State;* this added to travelling expenses, and the two months' additional time, make the expenses of the student much greater than in any of the Western Schools, with the exception mentioned. Our term is *six months*, no student getting his ticket till the close of the term. We think we have made a move in the right direction by establishing a *six months' term*, and having but four lectures a day."

Toland Medical College.—At the Annual Commencement of this Institution, held Oct. 2d, 1866, the degree of M. D. was conferred on ten candidates.

Philadelphia College of Pharmacy.—Mr. John M. Maisch has been elected to the chair of Pharmacy in the school of this college, made vacant by the resignation of Prof. Procter, who has filled the chair for many years with signal ability. The new professor is well known as one of the ablest pharma-

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centists in this country, and he will doubtless fully maintain the reputation of the school.

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Obituary Record.—Died, in Columbia, S. C., Oct. 15th, in the 57th year of his age, R. W. Gibbes, M. D., an eminent practitioner and naturalist.

—— At Chicago, Oct. 10th, of cholera, Daniel Brainard, Professor of Surgery in Rush Medical College.

—— In Cincinnati, Oct. 20th, 1866, aged 60 years, Brig.-Gen. Charles S. Tripler, Surg. U. S. A., and medical director of the Department of the Lakes. Dr. T. was one of the oldest surgeons in the army, and was highly esteemed for his ability and zeal, as well as for his honourable conduct, during his long and faithful service.

—— At Greenwich, N. J., April 23d, 1866, William Belford Ewing, M. D., in the 90th year of his age.

FOREIGN INTELLIGENCE.

Influence of Sleep on the Appetite and Reparative Powers.—If the sleep be broken, the appetite, with digestion and assimilation, are greatly impaired. Indeed, too much attention cannot be paid to this point, for from the loss of appetite patients rapidly waste, and the reparative parts of the system are greatly lessened, and thus the recovery is greatly retarded. Indeed, the loss of appetite resulting from want of sleep may completely wear out the patient, and be the chief influence causing death. It is thus of the utmost importance to secure to patients sufficient sound and refreshing sleep. This should always be accomplished when possible without the administration of medicines. The ventilation of the room should be carefully looked to, the diet must be carefully regulated, and regard must be paid to the amount of stimulants given. Often sleep is prevented by these latter being administered too late in the evening, or, on the other hand, if patients be very weak, their absence may cause wakefulness, and patients previously restless not unfrequently fall into a refreshing sleep when stimulants are freely administered. All undue excitement before the usual time of sleep must be avoided. If pain prevents sleep, this must be allayed; and if the restlessness be caused by cough, this should be remedied. The cough of phthisical patients not infrequently results from sore-throat. This is then red, injected, and it may be ulcerated. In such cases local applications to the throat are efficient remedies; one of the best is that recommended by Dr. Edward Smith. An eighth or tenth of a grain of morphia dissolved in a drachm of syrup or glycerine should be either painted on the throat with a soft camel's-hair brush, or, which is better, swallowed slowly. This application frequently allays the cough, and allows sleep. If the cough proceed from irritation in the chest, this may often be allayed by counter irritation under either or both clavicles. For this purpose either a mustard poultice, or a blister, or a strong solution of iodine may be applied. Inhalations, moreover, often succeed when given to allay cough: iodine or creasote inhalations are often of greater service than those of simple steam. The patient should be directed to rinse out a jug with boiling water to heat the vessel, and then to pour into it a pint or a pint and a half of boiling water; into this twenty drops of the tincture of iodine or the same quantity of creasote should be dropped. The vessel should then be covered over with a towel, and the patient must put the mouth and nose under the towel. This inhalation should be continued for five or ten minutes. If the cough be paroxysmal and violent, a mixture of laudanum with some chloric ether and tincture of lobelia inflata may often be given with advantage.

Sleep should always be obtained if possible without the use of large doses of opium, for this medicine itself lessens the appetite and often greatly interferes with the other functions of the body. The practitioner has to decide whether greater harm will result from want of sleep or the administration of opium. Patients exhibit great individual peculiarities in respect to the action of opium, and thus the above question can only be decided by a trial of the action of this medicine. With many patients this causes much excitement, sometimes of a pleasant, at other times of a disagreeable kind. With many it destroys the appetite or constipates the bowels; in such cases the opium may inflict even more harm than the want of sleep. On the other hand, some patients under its use fall into a refreshing sleep, and are in no other way affected by its administration. It should be the anxious endeavour of the physician to cure his patient with the smallest amount of medicine possible.—*Med. Times and Gaz.*, April 21, 1866.

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Hygienic Precautions against Cholera. The *Gazette des Hôpitaux*, Sept. 22, contains a capital paper on Hygienic Precautions against Cholera, drawn up by the Comité Consultatif d'Hygiène, and addressed to the Minister of the Interior. It states that the mortality caused by the Paris epidemic in 1865 was much lower than that of 1832, 1849, and 1854; that out of the 300 women employed by the Bureau de l'Assistance Publique in washing and cleansing the linen of the cholera patients, not one had died of cholera; and that only two cases had occurred amongst the 911 persons employed as bearers or otherwise at funerals. These good results are attributed to sanitary and hygienic measures public and private. The report proceeds to discuss the merits of most kinds of disinfectants, and for purifying water gives the preference to vegetable charcoal over the permanganate of potass. The form recommended is *braise de boulanger*—Anglicè, "baker's breeze," which, we suppose, is a sort of charcoal remaining from the wooden fagots employed to heat ovens. This substance is directed to be put into the fountains which supply drinking water, so as to form a filtering bed in the proportion of two kilogrammes to every hectolitre of water, and it is to be renewed weekly. The sulphate of iron is the favourite disinfectant for *fosses d'aisance*, drains, etc. We are somewhat surprised to see ammonia recommended as a gaseous disinfectant on the ground of its opposing the growth of mould, microscopic fungi, etc., and of its exercising a favourable influence on those who breathe it. In England we think the contrary in both particulars. Disinfectants, as carbolic acid, etc., should be placed at every aperture, by which air escapes from a cholera ward, so that the disease may not be propagated in the vicinity. Such are some of the points which strike us as novel in this useful paper.—*Med. Times and Gaz.*, Sept. 29, 1866.

Curious Physical and Allotropic Properties of Acetate of Soda.—Prof. JEANNEL, of Bordeaux, presented to the Academy of Sciences, a note illustrative of the "History of Acetate of Soda," in which some curious physical and allotropic properties of this substance are detailed. We have not yet had an opportunity of seeing the paper, but M. Legrand, in the *Union Méd.* for April 14, gives a brief account of some of its contents. From this it appears that crystallized acetate of soda melts in its water of crystallization at a temperature of + 58 Centigrade, and when it is exposed to cold, after being dissolved, it crystallizes at this temperature, which remains stationary during the whole time that the crystallization continues, so that acetate of soda in crystallizing presents a fixed point at 58° C., just as water, in the crystallized state, presents in melting a point at 0° C. Dissolved acetate of soda which is exposed to cold but secluded from the air, either in a vessel that is corked or one that is simply covered over, does not crystallize; but what is in the highest degree surprising is that, while cooling, thus protected from the air without crystallizing, it retains in a latent condition the greatest portion of the caloric which it had absorbed when entering into a state of solution. This caloric reappears and is disengaged when the crystallization of the salt is induced by simply exposing the solution to the air on uncorking or uncovering the vessel which contains it.

This singular property leads to a curious result. The temperature of 60° C. is easily obtainable from the sun's rays concentrated under a glass frame, and therefore the solar heat suffices for the solution of acetate of soda. But if this solution be effected in a corked or covered vessel, it will retain the greater portion of the caloric absorbed, and will restore this when convenient on the vessel being opened. And the quantity of caloric so absorbed is considerable, for 1 kilogramme of the acetate melted and cooled down to 0° C. will disengage, on removing the crystalline condition, sufficient caloric to melt 360 grammes of ice or raise 360 grammes of water from 0° C. to 79° C.

"In fine, here is a means of magazining solar heat. What will come of it in practice? Will human industry be able some time hence to store up for winter a provision of caloric which has been collected during summer? Why not? The observations of M. Jeannel are, as it were, the first steps on this seemingly fantastic path."—*Med. Times and Gaz.*, April 21, 1866.

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Presence of Marine Salt in the Maritime Atmosphere.—M. GILLEBERT-DHERCOURT read a memoir at a recent meeting of the Academy of Medicine on the "Presence of Marine Salt in the Maritime Atmos-

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phere," founded upon a long series of investigations conducted at Monaco. From these he concludes that—1. There exists at the seaside an atmospheric zone which is constantly impregnated with saline particles. 2 The distance from the shore at which these particles are met with at Monaco, justifies our assigning this zone a horizontal extent of at least 400 to 500 metres, and an elevation of at least 70 metres. 3. The proportion of such particles is larger in proportion as the portion of the atmosphere in which they are sought for is near the sea. 4. This results from the pulverization of the water, which takes place on the crest of the wave, and for this it is not necessary that the sea should be very rough. 5. The transport of saline molecules may take place through the winds to such a distance that very apparent traces of sea salt are found in rain water far from the coast. 6. This must not be confounded with the droplets of water which the winds raise from the surface of the waves.—*Med. Times and Gazette*, Oct. 13, 1866.

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Hydatid in the Brain.—On a post-mortem examination of a German governess who died suddenly at Pimlico, a hydatid, the size of a small nut, containing the ova of a tapeworm, was found in the right hemisphere of the brain. The cavities of the brain contained about six ounces of serum, and six or seven hydatids were found in the fourth ventricle.—*Lancet*, Oct. 27, 1866.

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Poisonous Nature of Crude Paraffin Oil.—At a recent meeting of the British Association, Dr. Stevenson Macadam read a paper on the deleterious effects produced on fish in streams by the discharges from paraffin works. The spent acid liquor and the spent soda liquor are the most serious discharges which escape from paraffin oil works, and their influence upon the health and life of fish is much more decided than the paraffin oil itself. The spent acid liquor consists of the sulphuric acid which has been added to the crude oil, accompanied by tar products, including picoline and other basic oils. It is a black tarry liquid of the consistence of molasses, with a somewhat sulphurous odour, and a very small quantity added to water confers upon the latter poisonous properties. In one instance, Dr. Macadam found this spent acid liquor which was collected, somewhat diluted with water, to possess the following powerful effects upon fish: 1. When the liquor was taken by itself, and fish emersed therein, they were dead in five minutes. 2 When the liquor was diluted with three times its volume of good stream water, and fish introduced into the mixture, they were killed in ten minutes. 3. With one of the liquid and twenty of water the fish died in fifteen minutes. 4 One of the liquor and hundred of water killed the fish in fifteen to twenty minutes. 5. One of the liquid and one thousand of water was poisonous to the fish in two hours: whilst in one of the liquor to ten thousand of water, the fish were not killed by their immersion in the mixed liquid for twenty-four hours, but were apparently sick and prostrate. The spent soda liquor which has been employed in treating the oil which had been previously acted upon by acid, is necessarily decidedly alkaline and caustic in its nature. It has extracted from the oil, and retains in solution, more or less carbolic acid and its homologues, and the poisonous nature of the spent soda liquor is doubtless materially augmented by the presence of these acids. One sample of this soda liquor which was flowing from a paraffin oil work, and which contained extra water, proved destructive to fish in ten minutes; diluted with three parts of water, it killed fish in twenty minutes; with twenty of water, the fish were dead in twenty-five minutes; with one hundred of water, the fish were killed in thirty minutes; diluted with a thousand times its volume of water, the soda liquor was destructive to fish in twenty hours; whilst in ten thousand parts of water the fish were not killed, but were apparently slightly sick. Experiments were also made with crude shale oil and the refined oils obtained therefrom, and with Pennsylvania petroleum and the refined oils extracted from it. The crude shale oil was destructive to fish in the proportion of one of the oil to one thousand of water, in twelve hours. The Pennsylvania petroleum, in the same proportion, did not kill the fish for twenty-four hours. The refined oils acted in a corresponding manner on fish; thus the refined shale oil, in the proportion of one to a thousand of water, killed the fish in twenty-four hours, whilst the refined Pennsylvania oil did not prove destructive till two days.—*British Medical Journal*, Sept. 15, 1866.

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Cholera in London.—This epidemic is gradually, but very slowly, abating in London. The number of deaths from the disease during the week ending November 3d was 73, no less than 28 of which occurred in the districts of Woolwich Dockyard and Plumstead. The deaths from diarrhœa during the same week were 28.

The deaths from cholera during the succeeding week, ending Nov. 10, were 67, and from diarrhœa 33; total 100.

The epidemic may be considered as having commenced in the week ending June 21, when 21 deaths from cholera and diarrhœa were reported, and to have reached its maximum in the week ending Aug 4th, when 1407 deaths from these two diseases were reported. Cholera still lingers in London, although it has prevailed already 24 weeks.

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Paris International Medical Congress for 1867.—The Committee appointed to organize this Congress has issued its conditions and programme. The Congress, which is to last a fortnight, will be opened on the 16th of August under the auspices of the Minister of Public Instruction. National members will contribute each 20 francs, but foreigners who announce their wish to take part in the Congress will be exonerated from all contributions. The Committee, in its programme, proposes seven questions for discussion, and members wishing to propose other subjects than those contained in the programme must communicate their essays to the Committee at least three weeks before the time of meeting. No communication must occupy more than twenty minutes in reading. The Committee proposes the following questions, and has published an elaborate commentary on each in order to illustrate the indications of the points sought to be brought out. 1. The anatomy and pathological physiology of tubercle; tuberculization in different countries and its influence on the general mortality. 2. The general accidents which lead to a fatal termination of surgical operations. 3. Is it possible to propose to the various governments some efficacious measures for restraining the propagation of the venereal disease? 4. The influence of the alimentation employed in different countries in the production of certain diseases. 5. On the influence of climate, race, and the different conditions of life on menstruation in different countries. 6. On the acclimatization of European races in hot countries 7. On the entozoa and entophytes which may be developed in man. All communications respecting the Congress to be addressed to M. Jaccoud, Secretary, 4 Rue Drouot.

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Paris Faculty of Medicine.—This faculty has commenced its winter Session with the following staff of Professors: MM. Gavarret, Medical Physics; Racle (as substitute for Andral), Pathology and General Therapeutics; Jarjavy, Anatomy; Wurtz, Medical Chemistry; Denonvilliers, Operations and Apparatus; Monneret, Medical Pathology; Richet, Surgical Pathology; Robin, Histology; Bouillaud Bucquoy (as substitute for Guillot) and Fournier (as substitute for Grisolle), Clinical medicine; Houel (as substitute for Jobert), Laugier, Velpeau, and Nélaton, Clinical Surgery; and Depaul, Clinical Midwifery. There are also to be delivered certain supplementary courses of lectures by MM. Roger, Diseases of Children; Lasègue, Mental and Nervous Diseases; Hardy, Diseases of the Skin: and Foucher, Diseases of the Eye.

Five Professors have resigned—viz., MM. Andral, born in 1797; Cruveilhier, born 1791; Trousseau, born in 1801; Jobert, born in 1800; and Piorry, born in 1794. M. Trousseau gives the following acount of his resignation:—

"When, well nigh thirty years ago, I was nominated a Professor, and went to call upon Orfila, who was one of my judges (the *concours* then existing in full activity), he said to me: 'Will you have the courage to do what I have decided upon doing? I am one of the most popular of the Professors of the Faculty, and in all probability shall continue to be so for a good while yet, but as soon as I reach my 65th year, without waiting until the public ceases to follow me, I shall retire.' 'I will engage to do the same,' I replied, 'and you may rely upon it I shall not attain caducity in my chair.' I have kept my word; for, having just attained my 65th year, I have sent in my resignation. Let younger men come on, and if we all acted thus, our Faculty, though deprived of that grand institution the *concours*, would recover its former splendour. The labour of practice is already oppressive for more than sexagenarian shoulders; that of teaching is impossible."

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The Minister of Public Instruction has announced his intention of immediately filling up the vacant chairs, and requests all candidates to at once send in a statement of claims and qualifications, with an account of the work they have done and of the books they have published. Permutation of chair, a practice much decried by the French Medical reformers, will be put into force; and it is said that M. Monneret will in this way exchange his chair of internal pathology for that of clinical Medicine, and M. Gosselin will take that of clinical Surgery in place of his chair of external pathology, which will be given to M. Broca.

The session was opened on the 3d of November, with the accustomed address of the dean and the usual panegyric on some illustrious deceased medical luminary. M. Wurtz, the dean, spoke very sensibly, and announced various improvements, among which is to be noted a laboratory for practical physiology. His advice to the pupils was extremely good. Professor Jarjavay then gave a vivid and eloquent sketch of the life and career of Malgaigne, whose works and deeds are so well known through the medical world. Both these excellent discourses were listened to by the most unruly, wild, rude, and noisy crowd of pupils, who have, as last year, stamped themselves as men regardless of the age, merit, and high standing of their professors. Their conduct is, by *L'Union Médicale*, denounced as thoroughly unworthy of gentlemen; and the same journal states that these introductory meetings will, owing to such scandalous behaviour, very probably be given up.

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Medical Students in London.—The *Lancet* (Oct. 27, 1866) states that "the number of entries at the several medical schools this year is above that of several preceding years. Notwithstanding the enforcement of a preliminary examination upon those who enrol themselves as medical students, their number falls but little short of that of the years preceeding 1860, when the great rush of candidates for the profession took place. The number of members of the profession in Great Britain has decidedly diminished during the past few years, but this must be due more to the numerous openings for young medical men in India and the colonies, than from any dearth in the supply of medical students, since, with over a thousand pursuing their studies in London alone, the vacancies in the profession must be rapidly filled up."

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Mortality Returns in Paris for 1865.—Together with a meteorological chart for Paris in 1865, Dr. VACHER has just published a supplement to the Registration Report for March, 1865, issued by Baron Haussmann, which furnishes a summary of the deaths that occurred in the twenty *arrondissements* of that city during 1865. The total of these amounted to 51,285, of which 26,339 were males and 24,946 females. Of this number, 22,926 were natives of Paris, and 28,359 were born elsewhere. Of the deaths, 37,428 took place *à domicile*, 13,482 in the hospitals, and 124 in the prisons, 251 bodies having been deposited at the Morgue. As to the causes of the deaths, 1162 of these took place from typhoid fever, 765 from smallpox, 945 from croup and diphtheria, 6591 from cholera, and 1568 from other zymotic diseases, making a total of deaths from zymotic diseases of 11,031, or 21.4 per cent. Cancer furnished 1494 deaths, phthisis 8399, and other constitutional diseases 535, the deaths from these causes altogether amounting to 10,428, or 20 3 per cent. Diseases of the heart caused 1458 deaths; of the lungs, 7536; of the brain, 6653; of the digestive canal, 9820; and of the urinary apparatus, 686. There were 706 suicides, 780 deaths from accidents due to carriages and other causes, while the total of 51,285 is completed by 5,187 unclassified deaths. The following years have been marked in Paris by an exceptional amount of mortality: 1709 (famine), when there were 29,288 deaths; 1794 (famine and executions), 30,388; 1814 (typhus and the battle of Paris), 33,116; 1832 (cholera), 44,463; 1849 (cholera) 48,122; 1854 (cholera), 40,968; and 1865 (cholera), 51,285 deaths.

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The Boundou Poison.—At the meeting of the Academy of Sciences of Paris, MM. PÉCHOLIER and SAINTPIERRE reported the results of their experiments on this substance, derived from a shrub of the *Apocynea*, and which is employed by the Africans on the Gaboon in an ordeal liquor. The Boundou contains a poisonous principle soluble in water and alcohol, and produces an action on the sensitive nervous system analogous to that of nux vomica. When administered by the stomach or by the endermic method,

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it produces at first an augmentation of the number of inspirations and cardiac pulsations, and afterwards a considerable diminution of those movements. It causes an exaggeration of sensibility, next tetanic convulsions, and finally insensibility, paralysis, and death. Its action on the motor nervous system is only secondary, and it does not affect the contractility of the muscular system. It is not a poison of the heart, which, on the contrary, continues to beat for a long time after death. These results were obtained from administration of the poison to rabbits, a dog, and frogs. In some cases the animal slowly recovered. This may be the case sometimes with man, and the Africans regard those champions in the judicial duels who escape from the deadly influence of the Boundou poison as recalled to life by the justice of God demonstrating their innocence.—*Med. Times and Gaz.*, Nov. 17, 1866.

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A Novel Infant's Nursery.—An old stable with 100 infants in the horse-troughs and hay-cribs is rather a novelty, but it is seen in the locality of Union-street, Borough-road, London. The work has been undertaken by the Rev. George Aldington, who has secured an old stable to form a nursery, and has fitted it up for taking care of the young children of women who are obliged to go out to char or work away from home. —*Med. Press and Circular*, Oct. 31, 1866.

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Glorious War.—The Commissioners despatched to the lazarets and field hospitals by the Patriotic Help Association (Hilfsverein) of Vienna has published an interesting report. They draw a pitiable picture of the condition of the peasantry in Northern Bohemia. For six months their country has been occupied by great armies. The peasant's food has been devoured, his field laid waste, his house burnt or torn down and laid in ruins. They declare that the dead were left unburied in many places, and that the poisoned air destroyed the living. Nearly all the amputations made by the Prussian military surgeons ended fatally, but no difference was made in the treatment of Austrian and Prussian wounded by the medical men. They found the condition of the hospitals in all that related to nursing and medical attendance "deplorable." The Commission started to Brünn on the 1st of August with fifteen wagon-loads of medical comforts. In Wilkersdorf they found a Prussian company as a guard to a cholera hospital. The pestilence was so bad that in a short time 450 had died out of 700 patients, and the officer in command said, "I hope in Heaven we shall soon leave this, for my sick will all be dead in a few days." At Pardubitz they found seven wounded Austrian officers, who were getting well in airy, well-shaded tents. At Königgrätz itself they found the hospitals overstocked and short of what was needed. In one house were 115 wounded officers, and in another were 198 more. They needed splints, lint, bandages, medicine, lotions, as well as tobacco and wine. On the 9th the Commissioners visited Rosnitz, Westar, Sadowa, Nechanitz, and Hradek, and describe with horror and astonishment the condition of the country. The hands and feet of the dead were sticking out of the hasty graves. As to the hospitals in these places, the Commissioners declare all appliances and necessaries were deficient. The Prussian doctors deplored their want of success in amputations. Many of the wounded had been left forty eight hours on the field without help, and were in the most unfavourable condition for treatment by the knife. On the 14th they visited Jaromierz, Skalitz, Nachod, etc., and all the hospitals up to Trautenau. In all cases their supplies were most welcome. The report affords a terrible peep behind the scenes of a great battle—the *après*, when the conqueror has moved off with drums and trumpets, and banners flying in the setting sun, and night settles on the dying and the dead.—*British Medical Journal*, Sept. 15, 1866.

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Prizes of the Royal College of Surgeons of England.—The Council of the Royal College of Surgeons of England has just awarded one of the Jacksonian Prizes of twenty guineas to Mr. William Paul Swain, of Davenport, a Member of the College, for his essay on "The diseased conditions of the knee-joint which require amputation of the limb, and of those conditions which are favourable for excision of the joint, with an explanation of the relative advantages of both operations as far as can be ascertained by cases properly authenticated" Mr. Swain was a pupil of King's College. For the other Jacksonian prize on the relative value of the various modes of treatment of

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popliteal aneurism, it does not appear there were any competitors. The following are the subjects for the Jacksonian prizes of the present year—viz., "Ovariotomy: pathology and diagnosis of cases suitable for this operation, with the best method of performing it, and the results of recorded cases; and on "Fractures into joints: their modes of union, with the treatment and result."—*Med. Times and Gaz.*, April 21, 1866.

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Sir Charles Hastings Fund.—With a view to perpetuate the memory of the late Sir Chas. Hastings, it has been determined to raise a special fund for the purpose of founding a medal, and supplementing it with a sum of money, to be awarded for distinguished service in medical science to any member of the profession in any part of the world. A considerable sum has been already collected, and we feel assured that a testimonial worthy of the excellent founder of the British Medical Association will be established.—*Lancet*, Sept. 22, 1866.

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A Live Gorilla.—M. de Quatrefages announced to the Academy of Sciences, that Admiral Fleurian has succeeded in bringing over to France a young live gorilla. The little brute has the free range of the house, and is employed in observing as much as it is the object of observation.

—

Museum of the Royal College of Surgeons.—Mr. Flower, the indefatigable conservitor of this museum has been exploring the osteological stores which have been accumulating for many years in the subterranean apartments of the college and has been rewarded by the discovery of the skeleton of that rare and probably extinct bird, the great auk (*Ala impennis*) of which only three other skeletons are known to exist in Europe, and none so perfect as that now at the college. Among other interesting additions to the museum, we may mention a skeleton of the awantibo (*Arctocebus Madagascarensis*) a lemuroid animal, from old Calabar; and the skeleton of another very rare animal presenting several remarkable peculiarities of conformation, the aye-aye (*Cheiromys Madagascarensis*).

—

The Head-Quarters of Drunkenness.—Liverpool has been pronounced the most drunken town in England. And it is true. Its extreme drunkenness arrests the attention of the judges, its pauperism weighs heavily upon the ratepayers; its rate, fifty-six per thousand, appalling. The drunken cases dealt summarily with by the magistrates are set down at the annual rate of one in thirty-three of the population. The habitual drunkards, in their periodic appearances before the bench, form an endless chain of besotted creatures. According to the recently published judicial statistics there are 3.100 habitual drunkards in Liverpool, and they are about equally divided as to sexes.—*British Medical Journal*, Sept. 1866, from *Liverpool Albion.*

—

M. Jobert de Lamballe.—The death of this eminent surgeon has been erroneously announced in some journals. At the latest dates (Nov. 15th) he was still in an insane asylum, but his condition had somewhat improved.

—

Obituary Record.—Died, in Paris, Oct. 6th, of diabetes, aged 77 years, M. Rostan, Professor of Clinical Medicine, and one of the most celebrated physicians of the French capital. M. Rostan was at the head of that school in France, which referred all diseases to organic changes. He was the great rival of Broussais, and has enriched our science with many useful works. As a lecturer he was a great favourite, and retained his popularity with several generations of students.

—— At Nice, Nov. 9th, 1866, M. Natalis Guillot, Professor of Clinical Medicine in the Faculty of Medicine of Paris.

—— At Sydenham, of pleuro-pneumonia, George Hilard Barlow, M. D., one of the physicians to Guy's Hospital, aged 60 years.

The list of physicians who have fallen martyrs to their devotion while succouring the sufferers from cholera, is a very long one. Vienna has lost M. le Baron Wattman-Beauliere, Surgeon to the Emperor, Dr. Franz Liharzik, Dr. J. Weidinger and Dr. Frese, Emeritus Professor of Zoology in the University. Leipsic has lost Dr. G. Gunther, chief of the surgical clinic of the hospital of that city. Breslau has lost Dr. Klopsch, distinguished by his writings on orthopædy. In the short German war no less than eleven Prussian physicians died from cholera.

The death is announced of Lady Holland, the wife of Sir Henry Holland, and the favourite daughter of Sidney Smith, no small portion of whose brilliant wit and literary power she inherited.

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commends the manful discharge of duty as the best remedy against "sinkings and oppressions of the spirits." The action of heat, whether it be direct solar, or a simply elevated temperature, is evidently the prime motor of heat-apoplexy, as the other causative conditions are chiefly predisposing, though in this respect their influence can hardly be over-estimated. The observable phenomena will vary according to the particular part of the nervous system, which especially succumbs under the morbid influence. In the worst cases where death occurs almost instantaneously the medulla oblongata is probably the focus of morbid action. Death ensues from arrest of the respiratory changes in consequence of the paresis of the vagi, and the lungs are found intensely engorged, even to the production of apoplectic extravasation, while the brain is almost free from lesion. In other cases of slower progress where the disorder commences with feverish debility in the morning, and terminates in stupor in the afternoon, the cerebral hemispheres are more especially affected, their vessels are found exceedingly congested, and those of the lungs less. Assuming the paresis to be primary, cerebral congestion ensues, according to the well-known law that impairment of function is intimately connected with impediment to the free transit of blood through the part. Thus the lungs become congested in apnœa. The circumstance that in the milder seizures the phenomena take the form of fever, either ardent, or remittent, or intermittent, points to the strong probability that in these instances the vaso-motor nervous system is specially implicated.

I subjoin here the notes of two cases of this affection as it has occurred in my experience:—

No. 15.—M. G., f., æt. 14, ad. July 18th. Ill six days; was out in a field, sitting in the sun, carrying children, suddenly became faint, and got pain in the head and vomiting, and has had vomiting ever since. She is always wanting to *lie down*, and complaining of her head. Skin cool. Pulse soft, open. Bowels very costive. Epigastrium not tender With tannin and mineral acids the sickness quite ceased in a week, and she was much better.

No. 16 —E. L., f., æt. 24, ad. Oct. 25th. Ill since the beginning of August. "She went reaping without a bonnet, and the sun affected her brains." It was about 2–3 P.M. when she was attacked, on a hot day with a bright sun. She was taken up senseless, and remained insensible for one whole month, during which her head was blistered. Legs have been much swelled, but are not so now. Has not suffered with pain in head. After the first attack she used to get slightly chilly in the afternoon, the chill was soon succeeded by much fever and cold sweats. Abdomen has been much swelled, is much distended with flatus now. At present she feels very weak and languid, is very anæmic. Has much nausea, can take no food. Very thirsty. B. regular. Urine sometimes red, sometimes pale. Head not hot, is rather better when lying down, "feels lost" when she gets up. Loses consciousness at times, finds her memory failing, spirits very low. Has dreadful cold sweats at night. The fever affects somewhat a tertian type. Skin cool.

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Pulse not particularly weak. She has just returned from Kent, where she was taken ill. She was ordered quinine *ter die* with mercurial alteratives *alt. noct ;* under which she improved a little, and discontinued attendance.

REMARKS.—In both these cases the phenomena are a sudden cerebral "coup" followed by failure of functional power, and stomach disturbance. The second case is much the more severe, the prostration was very prolonged and considerable, and the tendency of the disorder to assume the character of malarious fever apparent. It seems plain that whatever amount of hyperæmia of the brain may have occurred, the history is by no means that of mere cerebral congestion, but rather reminds one of the results of concussion. If we bear in mind the primary exhausting action of heat, it will not be difficult to conceive how an excessive application of this agent may produce such phenomena as above detailed. The occurrence of aguish disorder as the result of severe nervous prostration is highly significant as to the especial implication of the nervous system in malarious disease.

The *after symptoms*, as Sir R. Martin well remarks, "are of extreme interest, and they, as well as the more chronic and subdued influence of insolation, throw much light on the pathology of the disease." The list which he gives appears to me remarkably to confirm the opinion I have expressed that heat-apoplexy essentially consists in a functional paralysis of one or more great nervous centres. It runs as follows: "(1) Severe mental depression with sense of weariness along the spine. (2) Impression of the sun being always shining on the person with tinnitus aurium. (3) Distressing formication sometimes accompanied by a peculiar and general eruption and desquamation of the skin. (4) Deafness more or less severe with impaired vision, and inability to use the eyes in reading and writing. (5) Various paralytic affections, more or less general, as hemiplegia, and local palsies, as of the eyelids, cheeks, or upper extremities, with and without loss of sensation. Heaving and difficult breathing. (6) Distressing hysterical states of the nervous system, with absence of self-control in laughing and crying—the paroxysms being followed by great prostration of nervous power. (7) Interruption to natural sleep with incapacity for any kind of business. (8) Impression of alarm on any sudden movement of the body, and upon the occurrence of sudden noises. (9) Sudden epileptiform seizures, without loss of consciousness, followed by great nervous prostration." The foregoing have been observed in sufferers who have returned to England. In India, he proceeds, "we are familiar with the acute sequelæ to sunstroke, as ardent fever with acute delirium, remittent and intermittent fevers complicated with dysenteries, hepatic inflammations and congestions." These statements merit the most careful consideration, not only from the light they throw on the nature of heat-apoplexy, but from that which they shed on the pathology of a multitude of nervous disorders. Any man of experience in the manifold disorders of jaded and exhausted nervous systems will recognize at once how close is the resemblance between the results of tropical heat, and those produced by the ordinary causes in operation among

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the struggling multitudes of our large towns. It may be observed, (I.) That the most abiding results of heat-apoplexy are almost all referable to impaired functional energy of the cerebro-spinal system. (II.) That this impairment shows itself either in motor paralysis (5), sensory paralysis (4 and 5), either of common or special sensation, hyper- and dysæsthesia of the nerves of common and special sense (2 and 3), in debility and undue excitability of the emotional centres (6, 8, 9), and in similar states of the cerebral hemispheres and spinal cord (1, 7). (III.) The earlier sequelæ appear as the well-known consequences of vaso-motor nerve paralysis. The picture which Sir R. Martin gives of the manifold and varying sequelæ of sunstroke is altogether unlike that presented by actual organic disease. It is unlike in its causation, its non-progressive character, the inconstancy of the phenomena, and in the "juvantia."

The occurrence of eruption in connection with, and apparently as the result of cutaneous dysæsthesia is of much interest, and probably may be explained as the result of vaso-motor nerves becoming implicated in the morbid action. It will be remembered that one of the results of division of the sympathetic in some animals is cutaneous eruption. Romberg describes in the same way the development of prurigo from pruritus, a lichenoid eruption from a mere nerve affection. The action of summer heat in promoting the occurrence of lichen urticatus is familiar to many of us. The effects of heat-apoplexy illustrate very forcibly the development of morbid excitability and hyperæsthesia simultaneously with impairment of motor power. It is difficult to say how far malarious poison is concerned in producing the phenomena we have been considering, probably it acts chiefly as a predisposing cause. The parallel, however, between these two morbid agencies is extremely close, and it is curious and instructive to observe that their results are sometimes identical. The cause of this correspondence no doubt lies in the fact that both act principally on and through the nervous system, and that in the way of paralyzing its power. Admitting cholera poison to be a form of malaria, of which I think there is some notable evidence, we find in some recorded epidemics as sudden a death-stroke as can be occasioned by heat; malaria will produce various forms of paralysis and epileptoid attacks, cutaneous eruption, and mental depression, besides the well-known fevers. This however may be said that malaria affects more specially the vaso-motor system, and heat the cerebro-spinal.

As an imponderable influence, obscurely though unquestionably related to heat and malaria, we may notice electricity in its morbid action on the nervous centres. Dr. Radcliffe states in his lectures[1] that a continuous electrical current of low tension seems to have the power of producing temporary paralysis of a nerve or nervous centre which is traversed by it. Eckhard has shown that if the nerve of a frog's leg prepared for the purpose be included in a galvanic

[1] "Lancet," Feb. 28th, 1863.

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current it is impossible to produce contractions in the muscle by acting upon that part of the nerve which lies between the poles. In other words the part of the nerve along which the continuous galvanic current is passing, is paralyzed by the action of the current.[1] It is also a fact that the spinal cord may be paralyzed by the same means. If for example the spinal cord of a rabbit be included in the circuit of a voltaic battery the part between the poles may be cut, pricked, torn or even electrified without giving rise either to pain or convulsion. Although the above-mentioned effects are expressly ascribed to low-tension electricity it seems indubitable that a shock of high-tension electricity produces very similar, and even more abiding. Numerous instances are on record in which individuals having been struck by lightning have suffered temporary paralysis of motion, and special or common sensation, from which they recovered either spontaneously, or with the aid of tonic remedies. In these cases there can be I think little question that the nervous tissue is directly paralyzed from some molecular change taking place in its cells or fibres. I once experienced myself a severe shock from a very large Leyden jar, and well remember the overpowering general prostration I experienced, although the shock only passed through my forearm. It is impossible, I think, to conceive that any arterial spasm can explain the effects produced in this and similar instances. Certainly in the case of the frog's nerve dissected out, and remaining attached to the muscle above mentioned, there can be no question of local anæmia as the cause of the paresis. The "juvantia" also, as in Dr. Watson's case,[2] where steel and tonic treatment effected a speedy cure of paraplegia in a girl who had been struck by lightning, decidedly indicate that the paresis from this cause is one of simple functional debility.

Venereal excess is a powerful cause of cerebral paresis, as well as of spinal, few exceed it. Good Hufeland says, "it is proved beyond all doubt that nothing renders the mind so incapable of noble and exalted sensations, destroys so much all its firmness and powers, and relaxes the whole being as this dissipation." It is not too much to affirm that a state bordering on dementia has often been produced by sexual excess, and perhaps still more frequently by solitary vice. Esquirol says that immoral habits and the use of mercury are very frequently productive of that deplorable species of paralysis which becomes complicated with dementia and monomania.[3] It is somewhat remarkable that sexual excitement should have so pernicious an effect, for the nerves of the genital organs are by no means large, their origin is remote from the brain, and the loss of excreted matter can

[1] On one occasion I went to sleep with the negative pole of a 40 links Pulvermacher's chain in my hand, the positive being applied to my back. In the course of the night I found my hand was quite numb, but after removing the chain the numbness soon went off.

[2] "Lectures," vol. i. p. 332.

[3] *V.* Ritchie on same subject, "Lancet," Feb., March, 1861.

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hardly be regarded as any serious drain on the system. The only way that I can see of accounting for the remarkable collapse which attends on any abuse of the generative faculty is, that owing to the intimate commissural connections between the lumbar enlargement of the cord, where the pudic nerves are implanted, and the superior and nobler nervous centres, the intense excitation of even a small and remote centre is communicated to the others, which as this subsides fall as much below as they have previously been stimulated above par. The depression is proportional to the previous excitement.

Influenza is a common enough visitant among us, and familiar though its phenomena be, they seem to me of no little interest. That a person should be prostrated, as occasionally happens, almost instantaneously, and remain for some days in profound debility is surely very remarkable. Without speculating on the nature of the cause, let us simply consider how it seems to act. There can be I think no question that the nervous system is the one on which the stroke especially falls, and as little that the encephalic centres are prominently affected. The debility is by no means mere muscular weakness; it is described by Dr. Shapter as "an overwhelming feeling of lassitude and prostration of strength, with in many cases a loss of all muscular power, together with great anxiety of the precordia, and agonizing fears of death." The expression of the countenance is *abattu*. There are pains in every part, sensations as of being sore, beat, and bruised all over. Pain in the temples sometimes prevents rest for several nights. Many observers have noticed the occurrence of neuralgia of the face. Apoplectic and convulsive attacks have occurred in some instances, in some also delirium, in others coma. These citations of the experience of others,[1] coinciding as they do very much with my own, may be considered sufficient proof that the cerebro-spinal centres are chiefly affected by the miasma, and that in a paralyzing way. The catarrhal symptoms are for the most part such as indicate vaso-motor nerve paralysis, and atony of the capillary walls rather than actual tissue irritation. They, as Dr. Watson states, are not so essentially a part of the disorder as the peculiar prostration, since they are occasionally absent. It must appear to every reflecting mind as a very important and thought-exciting circumstance that there should exist such a subtle, undetectable poison, or agency, as this of influenza. Standing as it does quite separate from the exanthemata, it links itself on the one hand closely with some of our commonest disorders, and on the other hand manifests no obscure affinity with pestilences, and with that most widespread of all maladies, malarious fever.[2] The intensity of its operation on the nervous system, and the fact that it is now

[1] *V.* "Annals of Influenza," Syd. Soc., p. 320.

[2] Various good observers, Cleghorn, Petrie, and H. Greenhow, testify to the origin of re- and intermittent fevers from influenzal affection.

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as it were domiciled among us, makes it important to take count of it in dealing with a variety of obscure nervous disorders. It is probable that the more we come to know of disease the more we shall find that there exist a few great distinct morbific causes, which by acting on different parts, in different combinations and degrees and with slight modifications give rise to ever-varying forms of morbid action.

The treatment of cerebral paresis must essentially consist in the avoidance or removal of all exciting causes, as well as in the employment of all means that can recreate and invigorate nerve-power. The possibility of the paresis being dependent on remote irritation should be borne in mind. If, however, as is oftenest the case, it is primary and direct, we must endeavour to act on the enfeebled centre itself. Among the means at our command pure and bracing air, generous diet, and healthful mental excitement are perhaps the most powerful. The influence of the latter is often marvellous; it is really curious for any one to observe himself, and note how much more exertion he is capable of when his mind is thoroughly occupied and interested, than when the occupation is distasteful. I always ask my patients who complain of failing power (not of course dependent on organic disease) what recreation they *like*, and *that* I send them to, as the best for them. Under the head of food I may allude to the popular combination of rum and milk as being one of the very best restoratives that can possibly be given. A daily morning dose of it to weakly subjects is of great value, and in cases of an acute kind it may form almost the staple of the nourishment. As to medicines, our ordinary stimulants and tonics must be employed, the drug and the dose being matters for consideration in each individual case. I shall only mention particularly one or two remedies. Strychnia I have come to regard as a truly valuable cerebral toner, its action on the encephalic being not far inferior to that which it exerts on the spinal centres. It is a perfectly safe remedy with due care, and although I have employed it for years very largely I have never seen more than slight inconvenience produced by it, when it disagreed with some patients of unusual susceptibility. It should always be given in solution, and combines very well with quinine and iron. Phosphoretted oil I have used occasionally, but it is apt to cause considerable gastric disorder, and I have had but little encouragement to persevere with it. Dr. Radcliffe has recently spoken highly of the hypophosphites as remedies for states of nervous depression. My own experience of them in phthisis would not lead me to expect much benefit from them. Cod-liver oil is, I think, a remedy of real value, whether it act according to the chemical view of ministering to the nutrition of the nervous tissue, or not. An excellent and rather elegant tonic is a combination of ammon. carb. gr. iv + ferri ammon. citrat. gr. vij–x + tr. nucis vomic. ♏x–xv + tr. calumbæ ♏xx + aq. ℥i *ter die*.

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No. 17.—Mrs. P., æt. 48, broad and fat, seen July 24th, 1862. Has always been a weakly-nerved person; has had ten children. For six or seven years has suffered with bleeding piles. Her first attack of head symptoms was in October, 1861, the second in April, 1862. She did not lose consciousness in either, but had pain at the top of head and backs of eyes. She recovered from the first attack in six weeks; from the second she still suffers. Complains of burning heat at top of head, at times has pain and great heat of head, the pain is increased by the recumbent position. Feels some numbness in both hands along the back of the fingers. Has double vision from paralysis of the right external rectus muscle. Head not tender. Pulse of good force. Does not feel weak. With strychnia and citrate of iron and quinine the external rectus regained its power, and I lost sight of her after October 23d till March 17th, 1863, when she returned to me feeling very weak, languid, and incapable of exertion. A week later the paralysis of the external rectus was complete. Much hemorrhage had been going on from the piles. She had great pain at the right posterior part of head, increased on lying down. The double vision caused her much annoyance from the objects passing her in the streets confusing her. Her piles were now got rid of by operation, but the hemorrhage from the bowel continued whenever she had a motion, and the state of the right eye was unchanged. Nothing could be detected in the rectum to account for the bleeding except a loose and baggy state of the mucous membrane. This was at last arrested by tannin taken internally, aided very materially by removal to the country, where her general health and strength much improved. By the middle of June she had regained a good deal of power over the external rectus. I urged a return to the country, but this was not carried out; however, the improvement continued, so that November 10th, when I last saw her, she had almost perfect power over the formerly paralyzed muscle. Some bleeding had recurred, but not to any great extent.

REMARKS.—This case is an interesting example of a limited paresis of the nervous centres, involving the origin of one small nerve only. That the paralysis did not depend on organic disease must I think be admitted from the beneficial effect of strychnia, iron, and quinine on the first, and of country air on the second occasion. There can be little doubt that the long-continued hemorrhage was the cause of the general debility and local paresis, but it is remarkable that the latter existed before the former was felt to any notable extent. The pain in the head was probably neuralgic, yet it was aggravated on lying down. Enemata of krameria infusion, lead and opium pills, and sulphur internally failed to arrest the bleeding after the piles had been removed. The case is instructive in various respects, as showing (1) the connection between debility and paresis; (2) the necessity for close inquiry into the possible causes of paresis; (3) the superiority in some instances of a pure air to tonic medicines; (4) the dependence of hemorrhage in some cases on atony of vessels.

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CHAPTER VIII.

SPINAL PARESIS.

THE nature of this state in general, and its efficient causes have been sufficiently described in the previous chapter; it only remains to illustrate its phenomena when it affects a different locality. This I shall endeavour to do by the relation of some cases, which appear to me of considerable interest.

No. 18.—C. M., æt. 39, butler, ad. Aug. 17th, having been ill five weeks. He states that his illness came on gradually, apparently from excess in drinking, not in venery. He is paralyzed to a considerable extent in both hands, so that he cannot dress himself, nor pick up anything. His feet are also weak and flap down in walking. There is a great if not complete loss of sensibility in the paralyzed limbs. The paralysis is getting worse. He feels very weak all over. Head hottish, but there is not much pain in it; he has never lost consciousness. Tongue coated at back. Bowels costive. Pulse large, soft. Urine of sp. gr. 1014, of good full colour, not albuminous. Blisters to the neck have been of no service. He was treated with quinine gr. v *ter die*, till Sept. 3d, subsequently with ferri et quin citr. gr. x + tr. nucis vom. ♏x *ter die*. He improved gradually and was nearly quite recovered by December 20th. I have seen him lately, and find he has had no return of the paralysis during the six years and a half that have elapsed since he was under my care In some cases it appears as if alcoholic stimuli taken in excess acted on the spinal centres much in the same way as they do on the cerebral, impairing and depressing their functional power. Last year I attended a female, who had been extremely addicted to brandy-drinking for years; as far as I heard her history she had never had delirium tremens, but she lost both motor and sensory power to a great extent in both upper and lower limbs for some months before her death. In her it is possible that the alcohol had caused sclerosis of the cord, as no remedies were of any avail.

No 19 —N. D., æt. 20, m., ad. September 10th, 1858. Ill one month with inflamed sore-throat, which has got well; but since then he has begun to lose the use of his limbs, the legs being the weakest. He can now stand, but not walk; the legs are very numb and cold, but he is conscious when they are touched. He has no pain at all, nor tenderness of the spine. Sphincters act. Intellect clear. No reflex actions are excited on tickling the feet. Pupils large and almost motionless. Skin cool. P. natural. T. white. No cough. Heart-sounds natural. Residence damp. Never had syphilis. As I could find no clear indication of organic disease of the nervous centres, I prescribed strychniæ gr. $\frac{1}{10}$, quin. disulph. gr. ij, acid. s. dil. ♏viij, aq. ℥i *ter die*, with ordinary diet and porter. 14th. Feels much better, has more use of his hands and legs and can walk a little. 17th·

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Worse last two days. Has now sore-throat and much diarrhœa, with copious perspirations, and loss of appetite. "Has no use of the hands or legs again." P. c. mist. et tr. opii ♏viij ad. ℥i. 18th. T. very coated, yellowish. P. 120 full and weak. Some diarrhœa continues. Nausea and headache. Skin hot and moist. Cannot raise or turn himself in bed. P. c. mist. *quater die.* Vini rubri ℥vi *in die.* 20th. Bad cough. P. 96, full, occasionally intermittent. B. quiet. Adde quinæ gr. ij. sing. dosis mist. 21st. No sleep from cough, sputa watery and of a rusty colour. 22d. Feels much better, appetite improving. B. quiet. T. cleaner. No use of limbs. 25th. Galvanism was applied yesterday with great benefit; he is able to move his hands and arms much better. Appetite very good. Sleeps well. October 4th. The legs are now much more weak and numb than the thighs. A much stronger current required to excite the leg muscles than those of the thigh; the calf muscles are greatly wasted. The feet used to be very cold and numb, but are not now. The hands feel weak and are rather numb, he has "pins and needles" sensation in them at times. Strychniæ gr. $\frac{1}{18}$, tr. ferri muriat. ♏xv, acid. hydrochl. ♏ij, aq. ℥i *ter die.* 8th. Can now walk and feed himself; he cannot bear so strong a current as before. The same treatment was continued till the end of November, when he was discharged with only a slight degree of weakness remaining in the legs, which was referred to the knees. It seemed that the extensor muscles of the thighs had not regained their full power; he was able however to walk very well, and his arms had become quite strong. The dose of strychnia was gradually increased to gr. $\frac{1}{9}$ *ter die.*

A curious circumstance observed by himself was that his feet swelled during the night, so that he could not get his boots on in the morning, but after walking about the ward a little the swelling subsided. His urine was free from albumen and was otherwise healthy, except that at one time during the catarrhal affection it deposited much uric acid. I cannot but regard this as a very proving case. A man is admitted with incomplete paralysis consecutive (as he reports) to catarrh, after improvement has commenced he relapses, and becomes considerably more paralytic than at first, while simultaneously he is affected with asthenic bronchial and gastro-intestinal catarrh. Under a persistent tonic treatment he makes a good recovery. It seems impossible not to recognize in such a case as this the operation of a depressing miasm (influenza), acting with unusual potency on the whole nervous system. There is no indication of the paralysis being other than primary and direct, or that it is in any way attributable to remote irritation. The phenomena of vaso-motor paralysis were well marked in the skin and the mucous membranes, and the nocturnal swelling of the feet was owing, I believe, to the same condition. Is it conceivable that the vessels of the nervous centres were in a state of spasm, and that the paralysis depended on anæmia? What would have been the result of treating this case in the same way as the one recorded by Ollivier, *v.* p. 78?

No. 20.—A. W., female, æt. 9, has had paraplegia last three months, it increased rapidly after it commenced, and in fourteen days was as bad as

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it is now. She cannot stand or walk, but can move her legs as she sits. There is no loss of sensation in the lower limbs, they have wasted considerably. The muscles of the lower limbs are very insensitive to the interrupted current, more particularly the extensors. The spine is much curved, convex backwards and to the right side. When the legs first became weak she had more constant pain in back, but it did not seem to be increased by friction. Beginning from the two lower dorsal vertebræ there is tenderness on pressing the spinous processes all the way down to the sacrum. No sign of any tumour in front of abdomen or thighs, no trace of any abscess. At times she has constrictive sensations in the abdomen. The legs have been painful and aching lately, they start sometimes. Urine pale, aqueous, sp. gr. 1016, not albuminous, often thick and offensive, is passed in small quantities and with discomfort. It deposits phosphatic crystals, consisting of aciculæ united in stellar groups. B. very costive, only opened by enemata, motions very dark and hard, when the b. act has much pain in lower abdomen and all over her. After a dose of aperient medicine the legs have often appeared weaker. Appetite always poor, capricious, aversion for meat. Had constant nausea when her legs began to fail, but this is less now, is most felt in mornings. The last six weeks has complained of constant pain in the forehead, and all over the head. Sleeps badly. ℞. Strychn. gr. $\frac{1}{32}$, ferri et quin. citr. gr. v, aq. ℥ss *ter die*. ℞. Ol. morrh. ℥i *ter die*. The limbs to be faradized daily. This was continued for a month, to October 30th, without any advantage, indeed she was reported altogether worse. The circulation was very feeble, the legs hypersensitive. ℞. Liq. cinch. flav. ♏40, pot. iod. gr. xxxv, ammon. carb. gr. xxv, tr. bellad. ♏ 80, aq. ℥vi. M. ℥ss *ter die*. Vini aloes ℥ss p. r. n. Empls. bellad. 3 × 6, spinæ dolenti. November 24th. The belladonna disordered her vision, and did no good, the plaster was worn for a time, but caused discomfort and was left off. The other remedies have been continued, the dose of bark and ammonia being increased, and infus. chirett. substituted for the water. The aloetic wine moved the bowels well for a time, but even ℥i doses fail now; it produced no depression like all other purgatives. The faradization has been continued, and the muscles of the leg as well as of the thigh are much more lively, acting briskly to the current. She cannot stand, but wriggles herself about pretty actively on her knees. The back appears much straighter than it used to be, she can at any rate sit quite upright without showing any deformity. There is still local tenderness in the lumbar spines as tested by pressure, or applying a hot sponge. She has also pain in the front of abdomen, on both sides, and all about it, but does not make her wince under steady pressure. Feels still very cold. She is much more active mentally, amuses herself one way or the other all day long. Pt. To have warm wine at night, and rum and milk in the morning. December 8th. Better, can walk from chair to chair leaning on her hands. Very pale. Is so pleased to be able to get about that there is risk of her over-exerting herself. 23d. After a relapse for a few days lately of debility and languor she has again improved so much that she now walks alone quite well, goes all round the room, and even up stairs, though she halts on the right leg. She says she has nothing like so much pain in the back as she used, she bears pressure on the spine much better. Appetite very poor still. Taking tr. cinch. flavæ ℥i *ter die*, and strychniæ gr. $\frac{1}{30}$ *bis die*, with rennet wine at meals. B. are comfortably moved by syrup. rhamni cathart., one day they acted of themselves, which they have not done for months. January 6th. Can now walk about very

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well, but is soon tired. The mornings are her worst time, always complains then of being tired and languid. Sleeps and eats better. B. open without medicine. Feb. 13th Has not made any distinct progress since, a fortnight ago had a relapse, which took her off her legs, and was attended with pain in her back and side, and sleeplessness. Has palpitations sometimes severe. P. good. Urine very thick and offensive last week, clear and natural now. Is extremely nervous and sensitive at night, has great difficulty in getting to sleep, is alarmed and trembles at every sound. Has had cold dashing every morning. B. in good order. F. + Q., citr. c. tr. nuc. vom. *ter die.* P. c. oleo. To be much in the open air in a vehicle. March 12th. Has not been much out; one day after being in the open air about twenty minutes she became almost insensible and could hardly speak. Is now better again, and pretty active on her legs in the house. The strychnia and bark have been resumed. R. Steel wine 3i *ter die.* 17th. Has been moved to the country, has a better appetite last two days than she has had for a year, and sleeps beautifully. Walked yesterday three-quarters of an hour without fatigue. April 15th. Is looking much better and is in all respects much improved. Still she has not the free action of her legs that she ought to have, if she trips in walking she feels it in her back. September 1st. Has been again in the country for two or three months, latterly at Margate. She runs about for hours without being fatigued, and is altogether a different being to what she was. Still a little over-fatigue, especially in the *sun*, has a great effect upon her.

This case contrasts in several points with the preceding, although I believe the pathological condition was almost identical. The cause in the first case was a miasm acting upon an average system. In the second there was none to be traced, except it be admitted that some might have been generated from some broken-up clayey ground near the house where building was in progress. Solitary vice was of course suspected, but I believe there was no ground for the suspicion. The "grundleiden" seems to have been a most feeble state of the nervous centres especially of the cord, which was constantly lapsing into exhaustion, and which required persevering tonic treatment not only by drugs, but by pure air, and all that could recruit the feeble power. The excessive hyperæsthesia was both a product of the debility, and reacted on it and increased it, *v.* p. 44. In the first case there was little difficulty in forming at once the diagnosis of functional paralysis; in the second I felt considerable doubt for a long time. The chief circumstance that weighed with me in regarding the disorder as functional was the presence of such marked signs of general debility and hyperæsthesia. Had these been absent, I should have been much inclined to set down the case as one of organic disease. The local tenderness of the spine, the constrictive sensations, the phosphatic urine, and the paralysis were formidable symptoms, and might well have proceeded from chronic inflammation of the cord with softening. The insusceptibility of the muscles to the interrupted current was rather a favourable circumstance than otherwise; had the reverse been the case, it would have made the existence of actual central change much more probable. The progress of the

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case was by no means plain sailing, the tendency to relapse from imperceptible causes was very marked, and nothing but steady perseverance carried us through. In all such cases it is wise to follow Dr. De Ricci's example,[1] and refuse to undertake the responsibility unless the friends consent to give one fair play.

It appears to me a very important question in regard to such states as the above, whether what was originally functional may not by long continuance pass into actual organic disease. Obviously it must be almost impossible to ascertain this certainly; analogies might be adduced both for and against its occurrence. I think the conversion of the one state into the other by no means impossible, and I feel assured that no time should ever be lost in adopting effectual treatment for the restoration of functional power. The experience of physicians in cases of what is termed infantile paralysis is strongly to the same effect; my own observation quite confirms the truth of Dr. West's remark as to the importance of early treatment. Though it is very possible that paralytic affections occurring in children, and much resembling one another, may originate in different pathological conditions, as Dr. Heine has lately asserted, yet I think the absence of signs of inflammation of the cord or brain, or their membranes, the existence of more or less debility and disorder of health, the non-progressive character of the disease, and especially the "juvantia," will not leave us long in doubt whether we have to deal with a paresis or any organic affection.

No. 21.—J. G., æt. 3 years, male, admitted Feb. 23d, having been ill three weeks. He has lost the use of his limbs, can move his feet, but not stand, or walk. The power of the arms is somewhat impaired also. Appetite bad. The palsy came on in the night; the child was quite well on going to bed; in the morning his mother found his legs quite palsied, the arms to a less extent, and the face drawn to one side; this last symptom lasted only a few hours. Steel wine was given for fourteen days without benefit, and afterwards ferri et quin. cit. + tr. nuc. vom. Turpentine liniment was applied to the back and legs. April 4th. He is able to stand and walk round a table, holding by it. The improvement was soon after interrupted by his having got some wrong medicine, and then by an attack of dysenteric diarrhœa, so that on April 22d, when the tonic was resumed, he had lost the power of standing. After this, however, he went on steadily to recovery, and in the beginning of July he had gone to school. The disorder in this case at first was somewhat extensive, involving not only the nerves of the upper extremities, but one of the facial. It soon however subsided in the higher parts of the spinal centre, and confined itself to the lower. Under tonic treatment it disappeared, after a temporary interruption by some debilitating circumstances. Clearly this is not the history of any organic disease. The tendency of the kind of paralysis we are considering to supervene during the night is quite a feature that belongs to the family of neuroses, *v.* p. 44.

No. 22.—L. S., æt. 2¾ years, f., ad. February 11th Ill three months. Has lost the power of walking all that time, cannot now even stand alone;

[1] Dublin Med. J., Aug. 1862.

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but can move her legs, which are not wasted nor cold. The paresis came on suddenly one day, she never had a fit. No pain in spine, nor distortion. No injury to the back at any time. Sphincters act. Has nearly all her teeth. Looks healthy. Some vaginal discharge. Strychnia was given till March 3d, the dose being raised from gr. $\frac{1}{60}$ to gr. $\frac{1}{50}$ *bis die*, and ol. morrh. ℥i *ter die* given also In a fortnight she was able to toddle round a chair holding by it, in another week she could just walk alone. Citrate of iron and quinine was then substituted for the strychnia gr. iv *ter die*, and in fourteen days she could walk across the room and pick up anything from the floor, though her gait was very straddling.

No. 23 —E. C , æt. 2, m., ad. Feb. 4th. Ill four months, became gradually worse; has lost the power of walking; bends forwards in sitting, cannot hold himself up. His legs tremble so that he cannot stand well. Arms all right. Has pain at lower abdomen, bowels loose, motions offensive, is thirsty, appetite bad, has lost flesh. Sleeps well. Has all his teeth but the last molars. Head distorted since birth, right forehead bulging, left eyelid droops. Never had fits. He was ordered ferri et quin. citrat. gr iij *ter die*, a grain of Gray and of Dover's powder *o. n.* for three nights, and subsequently a little tr. opii was added to the mixture. Ol. morrh was given besides. March 21st. The report is that he is getting on nicely, is a great deal better, runs about. April 4th. Improvement continues.

No. 24.—W. W., æt. 2½, m., ad. Feb. 8th. Ill 1¼ year, unable to move the right arm and leg properly all that time, no material wasting of arm, halts in walking on the right leg; can walk a little, but often falls. Health now good. Had a fit for 2½ hours when 1¼ year old, when he was cutting two molars, and has had the paralysis ever since. His health was affected, at the same time he was languid and weakly. He was ordered cod oil and iodide of iron, which he continued till March 14th, when citrate of iron and quinine was given in place of the iodide. On 24th the report is that he is doing nicely, gets quite strong on his legs, can use his hand.

Remarks.—In these four cases the palsy came on without apparent cause in three, in the last it succeeded to a fit. In all I think it may be fairly argued that no material damage had occurred in the centres. That the palsy was not of reflex origin I think certain, both from the absence of any cause of irritation as well as from the "juvantia." Had the vessels of the centres been in a state of anæmiating spasm, as Brown-Séquard assumes, would not the starved tissue have certainly degenerated and gone into white softening in cases of such long standing as Nos. 22, 23, 24?

When one limb only is affected it may not be always easy to form an opinion whether the disorder is seated in the cord, or in the nerves of the part, especially if one or two nerves only are involved. In proportion to the extent of the paralysis is the probability that the disease is central.

The following case affords an instance of some uncertainty in the diagnosis of the exact seat of morbid action:—

No. 25.—M., æt. 56, m., seen April 2, 1861, having been ill fourteen days since exposure to cold. He had a catarrhal affection when the paralysis came on. He suffers with wearying, aching, dragging pain about

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the right shoulder, with loss of power in its abductor muscles. The arm hangs closely by the side of the body, and cannot be raised or abducted except by a jerk of the body. The deltoid and trapezius and other muscles about the shoulder are not wasted, but are more excitable and sensitive to the interrupted current than those of the opposite side; a moderate current causes much pain in these parts, and well-marked contraction of the deltoid especially. Two years ago he had similar enfeeblement of the right shoulder, but not nearly to the same extent as at present; it lasted nine months. This morning he could not feed himself with a spoon, nor tie his cravat, nor put on his coat. His vision fails at times, and he has had other signs of disordered nerve-action, as tremblings, twitchings, &c. He is very weak and thin. Skin warm. P. good. Urine used to be very thick; last three weeks it has been clear and of good colour. ℞. Ammonio-citrate of iron, carbonate of ammonia, tinct. of nux vomica, and infusion of calumba thrice daily; the shoulder to be rubbed daily with compound camphor liniment, and to be faradized. April 8th. General state improved, that of shoulder not much. A spot about the size of a shilling near the acromion is extremely sensitive to the current. ℞. Strychniæ gr. $\frac{1}{16}$ + tr. cinchon. ʒi *ter die*. 17th. Is decidedly improved, can abduct the arm to some extent. May 13th. Is quite recovered, and has full use of the arm. At times he has felt sensations in his legs of weakness and semi-paralysis.

REMARKS.—Had there not been some indications of failing nerve-power in other parts besides that principally affected, as in the nerves of the eyes and lower limbs, I should have felt much uncertainty as to whether the circumflex nerve alone was affected in some part of its course, or whether the disorder was central. The latter opinion, I have no doubt, is correct.

The nature of paresis, cerebral or spinal, is, I think, somewhat elucidated by reflecting on the condition of a nerve, such as the median or ulnar when affected with severe neuralgia. The function of the nerve is temporarily abolished, the skin which it supplies is utterly anæsthetic, and the muscles palsied. Under the influence of quinine and perhaps galvanism the sensory and motor power is restored. It is certain that these remedies would not amend a state of neuritis; and I can see no other view to adopt than that, owing probably to some minute molecular derangement of their tissue depending on impaired nutrition, the nerve-fibres are no longer capable of conveying centrad and peripherad the impressions they normally transmit. There is no difficulty in considering that the white fibres of the brain and cord may fall into a like state as those of the nerves, in which case the result would be the same as in peripheral neuralgia. The cells of the gray matter may probably be affected in the same way as the tubules, whose axis cylinders are continuous with their interior. This I am inclined to think is especially the case when the paralysis appears to be the result of a morbid impression (as cold and wet) made on the sensory surface of the skin. The following is an instance of this kind.

No. 26.—J. G., æt. 45, ad. Feb. 11th, ill two days. Has usually good health, does not admit drinking habits, but there is some doubt about this.

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Is much exposed to wet in following sportsmen. He got very wet before the present attack, which came on suddenly; he was unconscious at first for a few minutes. He is now very giddy, and so weak on his legs that he can barely stand alone, and was brought to the hospital in a cab. Head rather hot, not painful, aching pains in neck and shoulders. Right hand is closed, he cannot extend the fingers, it feels numb. T. clean. P. soft. No strength, no appetite, no sleep at night. Bark and ammonia with valerian were given, and after ten days, two grains of opium *o. n.* March 7th. Able to walk to hospital, right hand numb and crampy. 28th. Arm galvanized three times without benefit. April 4th. Quinine and iron ordered. 18th. He improves, but states that his arm has been better every other day for the last week. May 28th. He can now carry a large basin and jug filled with water. July 4th. Getting on well.

I have recorded another case (*v.* Brit. Med. J., April 16, 1859), in which symptoms of paralysis with impairment and disorder of sensation appeared in a young man the day after he had been standing a long time in wet grass. The paralysis without being complete was remarkably extensive and diffuse, affecting not only the arms and legs, but the masticatory and ocular muscles. Death occurred in about a week from asthenia. Nothing was found in the autopsy in the brain or cord that accounted for the phenomena, nor did microscopic examination discover any exudation cells, any granular coating of the minute vessels, or any indication of structural change. In cases of this kind it seems that the nerve-cells of the cord, as the first recipients of the morbid impressions, have their nutrition in some way disordered, in consequence of which their functional power fails. Graves, in his lecture on paraplegia, records cases where the disease was induced apparently by exposure to cold and wet, and in which it came on gradually, though with very varying rapidity in different instances; some being rendered almost completely paraplegic in a few weeks, others not for months or years. He finds stimulating liniments, and blisters applied to the parts of the affected limbs most copiously supplied with nerves, the most effectual means conjoined with the administration of strychnia and sulphur internally. He records one case in which a very careful autopsy discovered no diseased condition of any organ.

The conditions above noticed embrace the most frequently occurring forms of paralysis of the cord not dependent upon organic disease. Reflex paralysis appears to me to be a much rarer affection. I have not met myself with an instance of it. As there appears some tendency to use the term rather loosely, I will repeat that it seems to me properly to belong only to cases where the paralysis is evidently dependent on a persistent irritation, increasing when this is increased, and *vice versâ*. It is characteristic of *true* reflex paralysis that removal of the irritation proves curative, while all other means fail. It is certain that no true case of reflex paralysis would be benefited by strychnia, or galvanic excitation of the nerves or muscles of the affected part, nor by stimulating applications to the

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cutaneous surface. These are appropriate to the paretic state, and form by their success a good test of its presence.

There is another group of instances, which are not very uncommon, but the pathology of which is very obscure, and which I allude to without by any means affirming that they truly belong to the class of paresis. The following is an example:—

No. 27.—E. S., female, æt. 7½, seen Aug. 2, 1861. A month ago became feverish; her head or rather her neck was stiff. She had been treated for rheumatic fever, but does not seem to have had inflamed joints; the urine has deposited a thick whity sediment. Her legs became weak at once; after two days she had quite lost the use of them; the left arm was affected similarly a little before the legs, and remains so. She was delirious at first and had pain at the top and back of the head, which has ceased. For fourteen days she could not sleep at night for restlessness, sleeps now. There is no loss of sensation in the legs, but rather pain, she cries out when her calves are touched. No tenderness in spine. The muscles of all the paralyzed parts are very insusceptible to the interrupted current. She is quite unable to stand. Functions in tolerable order. I prescribed strychniæ gr. $\frac{1}{40}$ + ferri et quin. citr. gr. vi, aq. ℥ss *ter die;* the dose of strychnia was afterwards increased to gr. $\frac{1}{30}$, and the limbs were occasionally faradized. Oct. 5th. Is decidedly improved, can stand. The right leg is far the worst, and its muscles are insensible to the current, but the skin is hyperæsthetic, more so than it used to be. The left arm remains very useless; she has no power or but little over the flexors. Some stiffness in the muscles of the jaws from the strychnia. March 28th, 1862. Is decidedly improved, moves about actively, but the left hand and arm are still deformed, the hand drawn back on the forearm; she can however hold things with it. Dec. 31st, 1862. Walks about well, has walked some miles in a day, but halts still on the right leg. The flexors of the left hand are deficient in power, though she can use the hand tolerably. No medicine taken the last year.

The first question here for consideration is whether the disease was essentially acute rheumatism, attacking the cord. I am quite aware that rheumatism may appear primarily in the heart, but I doubt whether it is ever confined to this or any other internal organ, without sooner or later manifesting articular symptoms. There must evidently have been some resemblance to acute rheumatism in the febrile attack to have induced the attending practitioner to make this diagnosis. It is not easy to regard the disease simply as myelitis. The delirium, the very early supervention of paralysis affecting the cord as high as the origin of the brachial nerves, the absence of spinal tenderness when I first saw her, and as far as appears from the commencement, the preservation of sensibility, and the "juvantia" seem to me to afford evidence against viewing the disorder as myelitis or meningitis.

It is a highly important point to which Dr. Gull has drawn attention that lesions of the cord are occasionally attended with an affection, which in many respects is closely similar to acute rheumatism.

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The explanation of this probably is that the vaso-motor nerves of the whole system are paralyzed, and that in consequence pyrexia is set up. Case 27 recorded by this physician[1] is of very high interest. The patient, a widow working hard at a mangle, had for two years, when exerting herself much, felt pain in the back between the shoulders, and a sense of constriction and coldness round the chest. Ten days before admission she was seized with pain in the left leg, and spasmodic contraction of the muscles, with increase of the pain and constriction of the chest. She could extend the leg, but not walk. The next day there was febrile heat and diarrhœa, the hands, knees, and ankles were swollen and painful. A slough formed on the sacrum. On admission the hands were swollen, stiff, and painful with some erythema. The legs were so far paralyzed that she could only move them very feebly and slowly; the muscles very wasted, but retained their electro-contractility. Sphincters weak. Sensation nearly normal, but at times both legs felt numb, and were drawn up involuntarily. Touching the feet gave rise to formication and to very lively excito-motor movements. Eight days after admission the hands were still swollen and erythematous, the face flushed. Pulse 100, full. Perspiration had an acid smell. Pupils large. Nights sleepless. Urine ammoniacal. Opii, gr. i *6tis horis*. Wine 6 oz. daily and a chop. Under this treatment with faradization of the limbs she completely recovered in about six months. This case seems to me to have been essentially one of paresis of the cord with implication of the vaso-motor fibrils. The history is wholly that of nervous exhaustion, the symptoms are not contradictory (no pain or tenderness on pressure of the spine), and the "juvantia" are entirely corroborative of this view. The state of the urine and the good effect of the opium afford some tolerable evidence that the disease was *au fond* different from acute rheumatism. The occurrence of a slough on the sacrum in the existing condition of the vascular system is pretty good evidence, that the local death was not dependent on arterial constriction and anæmia as Brown-Séquard supposes it to be. It is much more probable that the impairment of nervous influence left the integument so enfeebled in its vital qualities that it was unable to resist the injurious influence of pressure. On careful consideration it appears to me highly probable that the case I have above recorded was essentially similar to Dr. Gull's, the quasi-rheumatic disorder in each being produced in the same way. In my case however the cause of the affection was probably some obscure influenzal or malarious miasm acting on a weakly nervous system. The child resided in one of the outskirts of London, where house-building was in progress, a kind of locality which I have often observed to be favourable to the generation of such influences. The long persistence of the paralysis suggests its dependence on some organic

[1] "Guy's Hospital Reports," 1858, p. 127.

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lesion, but this is opposed by the decidedly good effect of tonic treatment, though it was by no means effectually carried out.

Diphtherial paralysis is very evidently a paresis. From its proneness to extend so widely over the nervous system, affecting not only nerves of motion, but those of common and even special sensation, it seems most probably to be a central affection. This is also inferrible from its being generally, if not invariably, bilateral. It is stated by Dr. H. Greenhow that diphtheric paralysis at its outset is peripheral, extending gradually upwards from the tips of the fingers and toes towards the trunk. This certainly is the usual description of what is termed peripheral paralysis (as distinct from a central affection), but it is obvious that it by no means implies that the extremities of the nerves are first affected, and that the morbid action gradually advances centrad to the cord. It really means that one set of nerves is affected after another, leaving it entirely an open question whether the nerve-roots are the seat of the disorder or the distal extremities. It is clear that the same phenomena would ensue if we suppose the morbid action to be located in the cord and to proceed gradually upwards from below. The view of the paretic nature of diphtherial paralysis is strengthened by the occurrence of similar paralysis after typhus in which, as Leudet affirms,[1] there is an absence of any morbid change in the brain or spinal cord. As far as I can find it does not appear that any organic change has been discovered in the nervous centres in fatal cases of diphtheric paralysis. The only exception is a case recorded by Mr. Humphry,[2] who found in one case a small suppurated spot with softening of the adjacent brain substance in the superficial part of the left cerebral hemisphere. Hemiplegia of the right side had been present, but had gradually disappeared. The connection of this lesion with the paralysis seems open to some question. Perhaps the strongest argument in favour of the paretic nature of the paralysis in question is the good result of a highly tonic treatment, which we shall presently notice.

The interval which most observers have found to occur between the cessation of the primary disorder and the supervention of paralysis is an important point for observation, as remarked by Dr. Greenhow, since it tends to show that the nerve affection is not attributable either to albuminuria or to anæmia. It seems also as if it could hardly be the result of the original poison or influence, as no indications of it appear while the action of the latter is in its full intensity. In this respect it resembles the renal sequelæ of scarlatina, which sometimes ensue at a period when convalescence has decidedly commenced. As numerous cases of even severe diphtheria recover without any paralysis it follows either that some special modification of the original poison must be generated in the system; or, what is

[1] "Gaz. de Paris," 19, 1861.

[2] "Brit. Med. J.," July 4, 1863.

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more probable, that a certain peculiar state of the nerve-centres is requisite to allow them to be rendered paretic by the poison. This state may be gradually induced during the progress of the disease. The opinion expressed by Gull with regard to typhus fever,[1] that elimination of the poison from the system by no means coincides with convalescence, seems to be verified also in the case of diphtheric paralysis. The basis of this view is a due appreciation of the importance of the vital state of the solids with reference to their liability to be affected by poisons. It is by no means necessary that the presence of a poison in the blood should evoke phenomena of disease; the latter may not ensue or may cease because the tissues either are, or have become inapt to be affected. This is a most material point for the practitioner, who often has no power to prevent the entrance or the stay of a poison in the system, but who may do much to render the system tolerant of it. *V.* a paper on the theory of elimination in the treatment of disease, *Brit. Med. J.*, April 24th, May 1st, 1858.

The treatment of diphtheric paralysis is wholly that of a paretic affection, and may stand for that of spinal paresis. This at least expresses the general opinion of those who have had experience. Wade is the only writer who finds more advantage from pot. iodid., ferri iod., and hyd. bichlor., than from strychnia, quinine, and iron. These, and especially the first, are the remedies to which I should always have resort, together with ol. morrh., a pure air, and a generous diet. The dose of strychnia may possibly require to be increased in some cases rather largely. I should not abandon its use in any refractory case, where the diagnosis of paresis was certain, until I had carried it to the extent of producing slightly its physiological effects. Dr. Bardsley[2] gave it in some cases of paralysis to the enormous amount of a grain and a half daily. Sulphuret of potassium baths have proved useful in this kind of paralysis, as well as in various kindred affections. This affords an instructive example of the beneficial effects of suitable stimulation of the sensory nerves of the general cutaneous surface. Although the effect produced on any one part is small, yet the total impression conveyed to the nervous centres is considerable, and probably by its mildness and general diffusion acts with great advantage. Dr. Copland relates a case of general motor paralysis removed after other means had failed by frequent recourse to warm baths containing stimulant substances. In one case of paraplegia under my care lamp baths and the cold douche to the spine had been of benefit. These remedial actions are just the opposite to the morbific inhibitory, but in both the same principle is involved, viz., that of affecting nervous centres through afferent or excitor nerves; the result in the one case being to depress, in the other to arouse the functional energy. Everything depends on the *kind* of impression made, and on the vital state of

[1] "Med. T. and Gaz.," April 5, 1862. [2] Hospital Facts and Observations

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the nervous centre. The virtues of pine-leaf mud baths, and those made with the contents of ruminants' stomachs, are to be accounted for in the same way. The following is a well-marked case of diphtheric paralysis.

No. 26.—H. W., m., æt. 11, ad. April 23d. Ill two months. Has had severe attack of diphtheria, followed by violent sickness, albuminuria, ascites, and lastly the symptoms of paralysis of the soft palate and extremities. Liquids are apt to return through his nose when he tries to swallow. His arms are very weak, but not quite paralyzed. The legs are very useless, he cannot stand, and has very little sensation in them. His vision is affected, he cannot see near things well. The paraplegia has come on the last three weeks. The sickness has subsided. Three children and the mother of the family were attacked and one died. Ordered strychniæ gr. $\frac{1}{30}$, ferri sulph. gr. ij, spt. æth. s. co. ♏x, aq. ℥ss *ter die*, et ol. morrh. ℥i *ter die*. Lin. terebinth. dorso. The dose of strychnia was gradually raised to gr. $\frac{1}{10}$, and he was almost quite well by the end of June.

CHAPTER IX.

CEREBRAL EXCITEMENT.

THIS state is of course the opposite to paresis. The functional energy of the various encephalic centres is aroused, and shows itself by corresponding phenomena. Perhaps the stimulating influence of good wine, not of course its intoxicating, affords as good an example as we can have. The face is somewhat flushed, and the brain we may believe is too, the eye is bright, the flow of ideas is rapid, the tongue eloquent, the temper cheerful, and the spirits elated. Of the same kind, though altogether unnatural and infallibly pernicious, are the stimulating effects of opium. Cocoa, except in large doses, produces less intoxication, and its use is not followed by depression. All physical agents are however surpassed by intense mental excitement. Not to mention acute mania, the maternal instinct does unquestionably develop an extraordinary amount of energy and endurance in the weaker sex, sometimes overpassing it may be affirmed anything shown by the stronger. A mother will watch by her child's sick bed for days and nights together, till one marvels how it is that nature does not sink under the effort. In a milder degree mental stimulus shows its energizing influence in enabling us to endure fatigue to a much greater extent than we could do without it. A sportsman will keep on foot for many hours in pursuit of game who would declare himself "dead beat" with half as long a constitutional. The following story is so beautiful that I cannot

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forbear quoting it.[1] "After the crossing of the Green River the whole party went on foot, and the men were becoming weaker every day for want of food. The painter who had one foot badly frozen became at last through lameness constantly the last man on the trail, and once his energy almost deserted him. He was at the top of a mountain of snow with not a tree to be seen for many miles. Night was approaching, and in the direction taken by his comrades not a sign of life could be descried. He sank exhausted on the snow bank, and took out of his pocket for a farewell look the miniatures of his wife and children. *Power came to him out of their faces.* He thought how little his wife could afford to be a widow, or his children to be fatherless, beat down his despair and struggled forward. It was not till late at night that he arrived at the camp fire."

The effect of cerebral excitement varies extremely according to the previous condition of the organ. A strong well-balanced brain will bear a great deal of excitation without showing any irregular or violent reaction, or subsequent debility; while a weak and excitable one will be provoked by a less amount of stimulation to manifest phenomena of morbid activity, and will fall subsequently into great collapse. It is just in the difference of capacity for enduring the wear and tear of excitement that original endowment and training show the greatest influence. One man will sleep soundly and digest well under the same anxiety which renders another wakeful and dyspeptic. It is related that the Iron Duke, on the eve of an engagement, was aroused during the night from his sleep by a message that some important point was seriously menaced. Having reflected for a moment he pronounced it erroneous, and turned off to sleep again. He was right, but few men could have composed their brain to sleep after such an awaking, even though they were persuaded that the alarm was groundless. In these days of feeble and sensitive nervous systems it seems to me to be one of the most important parts of education to develop by physical and moral training a robust and non-excitable state of brain, so that the individual may be well able to confront the strain and struggle of actual life. It is in not affording this robust vigour but generating hyperæsthesia instead that tender nurture becomes often positive cruelty.

The *morbid* states characterized by cerebral excitement are chiefly those in which delirium is a conspicuous feature. Quiet muttering delirium tending towards coma may be left out of account. Active delirium, sthenic and asthenic, and the so-called delirium tremens, are the states we propose to examine. Sthenic delirium is a common result of meningitis, and of ardent, and of other high fevers. The gray matter in such cases is usually found after death of a darker colour than normal, and sometimes especially in young persons is distinctly reddened. The white substance exhibits numerous bloody

[1] Household Words, March, 1857, p. 264.

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puncta. There can be no doubt however that fierce delirium may occur when there is no remarkable vascular injection, at least when no traces of this are found after death. In fact in this as in a multitude of similar instances the excitation of the tissue is the primary change, and the vascular repletion is secondary and varying. If the normal tissue activity be great, though the gray matter will probably be dark, yet there will be no effusion of lymph, and no material capillary engorgement. If however the functional power of the tissue fails, and an inflammatory condition commences, we shall have considerable vascular repletion, and probably more or less exudation, which however may not extend beyond mere coating of the vessels with granular deposit. There is no inconsiderable analogy between a diarrhœal or a salivary flux, and active delirium. In both extensive tracts of cell-growth are stimulated to an excessive and rapid nutrition, which interferes with the due development of the individual particles. In the former instance the cells being disposed on a free surface are shed rapidly; in the latter we are unacquainted with the precise changes which the cells undergo. Assuming the correctness of the general opinion, that the axis cylinders of the nerve-fibres are continuous with the granular interior of the nerve-cells, it seems almost a necessary consequence that disordered and hurried nutrition of the latter would communicate itself to the axis cylinders, and so give rise to abnormal sensations, and disorderly motor impulses. The very varying amount of cerebral excitement in different instances of the same kind of fever must be admitted to depend in part on corresponding differences in the quality of the nervous power. The poisons are doubtless the same in all cases, but the condition of the recipients may vary greatly. Of course much will also depend on whether the poison be specially determined to the head or not.

It is not yet fully determined what changes occur in the urine in cases of sthenic delirium. In meningitis and acute mania it is probable that the phosphoric acid is much increased, but this is not yet fully established. It would be highly desirable if we had some trustworthy indication, from this or from any other source, to guide us as to the existence of really sthenic delirium in any given case, but we fear we have none such at present, and that we must rely in this as in many other instances on our discriminative tact. Of course if a patient has a flushed face, and hot head, a firm not very frequent pulse, a ferrety eye, a contracted pupil, and shows considerable muscular power and energetic action there is no room for doubt; but in such a case as that recorded by Graves (v. *Clin. Med.*, p. 175), where the patient, though violently delirious and unmanageable, "on the borders of frantic madness," had a pulse almost uncountable from quickness and exceedingly weak, with cold extremities, the most experienced would hesitate as to the proper means to be adopted. Graves says, a very few leeches would kill him, blisters would be too slow in their action, and might even aggravate the

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disease, cold affusion seemed inadmissible. Yet this man took in less than forty-eight hours 12 grains of tartar emetic without any prostration being produced, while the cerebral excitement was calmed, sleep induced, and the pulse rendered slower, and much softer and fuller. A right discrimination in such emergencies as this is indeed a high attainment, the more so as the remedy is quite capable of being very pernicious as well as beneficial.

Active delirium in rheumatic fever is in the great majority of cases the result of an increased excitability of the nervous tissue, and is not dependent on inflammatory movement. In the cases referred to by Dr. Fuller where actual meningitis had occurred the delirium had been rather of a low kind. Dr. Copland distinguishes two sets of cases, one where delirium or mental disorder occurs in the course of acute rheumatism, without any abatement, or but little either of the fever, or of the local disease. In these cases, he says, the head affection is chiefly nervous, and contingent upon the febrile condition, in connection with depression of nervous or vital power. In the other, the head symptoms appear at an advanced stage of acute or sub-acute rheumatism, and are generally followed by the subsidence of the disease of the joint. The patients are exhausted or cachectic, and the head symptoms are more or less indicative of inflammatory irritation of the brain or its membranes. In my own experience the form of delirium I have mostly met with in rheumatic fever has been of the first kind, and has chiefly occurred in cachectic or feeble subjects. In one instance which I shall presently relate the head symptoms, which were of a highly sthenic character, coincided with cessation of the articular affection, which reappeared again to some extent as the former gave way. There seems much reason to think that the exciting cause of acute rheumatism, whether it be an imponderable influence, or a material virus, attaches itself especially to the nervous system, and works through it. If the nervous power is strong and steady, the inflammatory phenomena will proceed in an orderly manner to the termination of the disease. But if the reverse is the case, if the nerve power is weak originally, or gets exhausted by injudicious treatment, the irritability of the brain becomes greatly increased according to the general law (*v.* p. 44), and it is affected in a much more intense measure than it would have been in a stronger state. This is an instance we think where a judicious solidism is essential to true pathology, and to successful treatment. The exciting cause of rheumatic fever must be no doubt the same in all cases. Yet in the great majority the delicate structure of the brain is unaffected by the poison, or the morbid influence whatever it be. In a few however who have less resisting power the function of the nervous tissue is disordered. Clearly the principal object of treatment should be (in such cases) to strengthen and aid the weak organ to bear up against the perturbing agency. For this opium and stimulants are requisite. Though theory might incline us to try to quell the irritation by thorough alkalization of the

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system so as to neutralize the presumed acid materies morbi, yet practically we find that this is insufficient, and that we must deal with this and with all the visceral complications of rheumatism as substantive disorders. The same indeed holds true of delirium in all cases; it must be treated according to its quality, without regard to its presumed cause. In such asthenic delirium as we have been considering the disorder of nutrition may be well compared to that existing in neuralgia, a non-inflammatory molecular derangement of the tissue. In sthenic delirium it approaches more to inflammatory action, and probably in extreme cases may pass into meningitis.

As regards the treatment of active delirium very much of course depends on the nature of the affection, and the presumed pathological state. If the disorder be of sthenic character, various depressant measures will be found essential. It is the fashion with some to depreciate Abercrombie, but there seems to be no question (unless we accuse him of deliberate falsehood) that he has left us most valuable records of the successful treatment of cerebral disease as it occurred in his day. I do not see if we accept his cases as truthful records that we can question the beneficial effect of general and local bleeding, and of hard purging. Abercrombie candidly states that the cases terminating favourably form but a small proportion to the whole of those he has met with, but this does not alter the fact that in certain cases this evacuant treatment was successful. I am not at all disposed to be a blind worshipper of authority; I desiderate carefully-recorded observations in proof of general views, but when I have these I shall not reject or ignore them because they do not accord with my own experience. Abercrombie's testimony is fully corroborated by that of other observers, and looking at the whole no doubt exists for a moment in my own mind as to the propriety of adopting the means he recommended when we have sthenic conditions of system to deal with. Dr. Marshall Hall places congestion of the brain at the head of the list of disorders which increase tolerance of bloodletting. It is scarcely necessary to say that if venesection be requisite it should be performed in such a manner as to make a speedy impression on the system, and induce semi-syncope. The importance of choosing the right time for venesection has often been pointed out. As a remedy it belongs to the initiatory period of inflammation, before exudation to any amount has taken place, while the heart's action is forcible, and the bloodvessels retain their tone. In tropical fevers it is of vital consequence to employ it seasonably. Ranald Martin writes, "What was a saving means at the commencement of the paroxysm is as surely destructive at the end of it." In minor degrees of sthenic delirium leeching the head may be sufficient; Graves and Corrigan speak very favourably of its effects. The application of cold to the head is also a means of prime importance. Southwood Smith adduces cases to show that where headache and delirium are present, and the lancet is inadmissible, placing the patient in a warm bath, and directing a forcible stream of very

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cold water on his head, soon renders him more calm, relieves his headache, and for the time dissipates the cerebral symptoms. Graves adds his testimony that the effects of this remedy are extremely remarkable, and thinks that many of the cases in which he has employed tartar emetic with such signal advantage would derive equal benefit from this mode of treatment. Von der Decken and Brand[1] have lately found baths and cold affusions of eminent service in typhus, especially in tranquillizing the brain and preventing delirium. Abercrombie prefers the cold stream to the application of pounded ice, but warns us that it is a remedy of such power that it requires to be used with discretion lest it produce excessive prostration. It is most probable that the *modus operandi* of the cold douche to the head consists in its exciting in the cutaneous nerves an impression which is propagated through the centre to the vaso-motor nerves of the cerebral arteries, and induces their contraction. On the same principle, viz., of inducing anæmia, a stream of water has long been used in some countries as a means of sending children to sleep.[2] Tartar emetic combined with opium has already been mentioned as a powerful remedy in violent cerebral excitement. Graves by no means proposed it as a specific to be given in all conditions; he does not advocate its use at the commencement of fever, when other antiphlogistic measures may be more advisable, but at a later period, when symptoms of general debility announcing the typhoid type begin to predominate; and when the condition of the patient approximates to that observed in certain varieties of delirium tremens. Graves lays down that the relative portions of tartar emetic and laudanum must be varied according to circumstances. "When congestion of the brain is known to exist or is feared, the tartar emetic must not fall short of 4 grains in the 8 ounces, while the laudanum should not exceed half a drachm; but when nervous symptoms predominate the laudanum may amount to ʒi, and the tartar emetic to gr. ij; no general rule, however, can be laid down, and the practitioner must in all cases watch the effect of this medicine from hour to hour, until he ascertains whether it agrees with the patient or not." It is clear from Graves's cases that he considers the existence of very marked debility no contra-indication to the treatment. He states that it has sometimes disappointed him, but makes no mention of any disastrous effects produced by it. We have heard from those who have employed this remedy that such are by no means impossible. It was not for mere nervous disorder that Graves used tartar emetic and opium, but for nervous disorder combined with cerebral congestion. Wine, musk, porter and opiates would control the nervous symptoms alone, but not when they were blended with the effects of cerebral hyperæmia. In some of the cases, but by no means in all, the pulse before the tartar emetic was given was

[1] Schmidt's "Jahrb.," vol. cxvii. p. 125.
[2] Graves's "Clin. Med.," p. 745.

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small and wiry as well as frequent. The action of the medication was always to reduce the frequency of the pulse and render it fuller, and in some cases much softer. It is unfortunate that we have no information as to the quality of the first sound of the heart in the cases which Graves relates. One cannot but entertain much apprehension that tartar emetic would be a perilous drug to exhibit when the heart's tissue was seriously softened and enfeebled. Ackermann[1] always observed after injection of tartarized antimony a diminution of the force of the blood in the aorta, which took place whether the frequency of the pulse increased or diminished, but was greatest with a slow pulse. In dogs killed by tartar emetic the irritability of the heart examined immediately after death was remarkably diminished, and sometimes altogether extinguished. On the whole the safest conclusion that one can arrive at with regard to this medication seems to be that it is chiefly appropriate to conditions characterized by high nervous excitement associated with more or less active cerebral hyperæmia. One of the best criteria for judging of the degree of cerebral activity will be the capacity displayed for muscular exertion. If this be considerable, it is clear that a good deal of vis nervosa must still exist, and we may proceed more boldly. Some important general inferences may be drawn from the remarkable facts ascertained by Graves. (1) That in certain morbidly excited conditions of vital power depressing remedies are well borne and may be essential to preserve life. (2) That this morbid excitation may be confined to one organ, as the brain. (3) That tartar emetic operates as a tissue sedative, and when it acts most favourably confines its sedative action to the morbidly excited organ. The case first alluded to illustrates forcibly the two last propositions; the brain was violently excited but the heart was far from being so or any of the other organs;—the antimony produced no depressing effect but seemed to expend itself on the brain. This is what it has been found to do, when it has acted most beneficially in pneumonia, but this is just what it is often at the present day impossible to insure.

Colchicum is a remedy which has been found of admirable effect in calming high delirium of sthenic character associated with cerebral hyperæmia. Dr. Hamilton Roe gives gr. v of the powder every two or three hours until the face is blanched, and the morbid action quieted. In some visible inflammatory affections of the eye it acts similarly. It is a remedy of the same kind as tartar emetic, and to be used with the same precautions.

Hydrocyanic acid has lately been strongly recommended by Dr. M'Leod[2] as a powerful calmative in acute maniacal conditions where no grave structural change exists, and where the morbid action has not become as it were stereotyped by frequent recurrence. He con-

[1] Virchow's "Archiv"—"Brit. Med. J." Aug. 29, 1863.
[2] "Med. T. and Gaz.," March 14, 21, 1863.

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siders that it checks the morbid activity of the brain, "the excessive and purposeless cerebral vigour." Sound sleep sometimes follows, but is by no means a necessary result of its beneficial action. The dose is ℥v every quarter of an hour till some manifest effect is produced. If there is any difficulty in administering it by the mouth, the method of subcutaneous injection may be employed. In the latter case the ℥v of acid are to be combined with ℥xxx of water. M'Leod has no doubt from his experience that it has the power of promptly staying cases running on to chronic insanity on the one hand, or exhaustion and death on the other. As its best ascertained therapeutic effects consist in removing various neuralgic affections, it is probable that it is more appropriate to states of the brain in which simple excitement of the tissue constitutes the disorder, than to those of which hyperæmia forms an essential element. It is a less depressing remedy than the two preceding, but an over-dose produces a stuporous condition and other phenomena resembling those attending an epilepsy.

The foregoing remarks relate to the treatment of sthenic delirium, but we have seen that acute or active delirium may be asthenic. It may be no easy matter to distinguish between cases requiring depressant measures, and those for which stimulating are essential. If we read Grave's remarks on the subject of giving wine and opium in fever we cannot but remark that he felt it not uncommonly to be a difficult question to decide when they were to be given, and when withheld. He states, "that we must rely in the more advanced stages of fever on the tact acquired by previous experience and reflection, and must often depend more upon a correct estimate of the general state of the patient than upon the appearance or absence of any particular symptom."[1] Sleeplessness with restlessness and irritability, the patient constantly endeavouring to leave his bed and having delusions—these symptoms may urgently demand wine and opium. Violent and continuous delirium forbids, in Graves's opinion, a stimulating treatment, but this does not hold if though there be a good deal of raving it is nocturnal. Stokes gives a case (p. 404)[2] where there was violent delirium throughout the night (two days later it is simply reported that there was such delirium without specifying that is was nocturnal), in which 16 ounces of wine daily with camphor, musk, and opium appeared to be highly beneficial. In one of Dr. Todd's cases of erysipelas[3] the patient had such violent delirium and created so much disturbance that he was obliged to be placed in a separate ward. With ℥ss of brandy every two hours and ℥xx of laudanum every four hours the delirium was unabated, but diminished considerably and soon ceased after the brandy had been given every hour, and the laudanum had been replaced by bark, chloric ether and ammonia. In another case, one of epileptic

[1] "Clinical Med.," p. 187.
[2] "Dis. of the Heart and Aorta."
[3] "Clin. Lect. on Acute Diseases."

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delirium, very violent and constant delirium subsided in about four days under ℥ss of brandy every hour, with carbonate of ammonia and laudanum every four hours. The pulse steadily declined in frequency during the administration of the stimuli. Todd speaks very confidently also of the efficacy of alcohol in preventing delirium in patients suffering under various acute diseases. He evidently holds that it is better to err on the side of giving too much than too little stimulus. The points to which we should have most regard in endeavouring to determine the quality of the delirium we have to deal with are: (1) The general condition and constitution of the patient; (2) The state of the urinary secretion; (3) The state of the pulse; (4) The quality of the first sound and impulse of the heart; (5) The state of the pupil; (6) The state of the skin; (7) That of the bowels. If the patient be enfeebled from any cause, and has not previous to his illness enjoyed vigorous health; if his urine is in good quantity, not highly acid, red, or of high spec. grav.; if the pulse is easily compressed; if the first sound of the heart and its impulse are weak; if the pupil is dilated; the skin not very hot and dry, and the bowels relaxed, we have good grounds for expecting that stimulants will be beneficial. In proportion as the above signs are less marked, the indications become less clear, and we must resort to what is often a wise proceeding, viz., testing the condition of the system with some remedies, the result of which may lead us to take the right course. The more we can perceive the signs of excitement without power in the cerebral disturbance, the more bold we may be in our administration of stimulants and support. In cases of this kind opium is often necessary, and its dose must depend on the degree of excitement, and on various other circumstances. Too small doses may only aggravate the excitement, and too large may bring on dangerous or fatal stupor. The determination of this point is one of the most delicate in therapeutics, and cannot be solved, at least in all instances, by administering small tentative doses in succession. I am much inclined myself to give large doses of hyoscyamus, as ℈j of the extract, in cases where it might not be safe to give a full dose of opium. If we prefer the latter the amount of cerebral excitement is the chief measure we have of the quantity of the drug which will be requisite to calm it. If the pupil be contracted, belladonna may be given as an hypnotic with advantage as Dr. Murchison tells us. Hyoscyamus would probably be suitable in the same state. In cases of the kind we are now considering brandy mixed with milk will be found one of the best forms for administering stimulus and food. It should be given of course at very short intervals, say ℥ij of brandy + ℥ss or ℥vj of milk every hour or half-hour.

No. 27.—W. L., æt. 25, of spare frame, delicate constitution, carpenter, seen March 28th. Ill with acute rheumatism about ten or twelve days, his head began to be affected two days ago. Five years ago he was under Mr. Culpepper's care for a very severe attack of acute rheumatism, attended

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with endocarditis and pericarditis. Five years before that he was under my care with similar disease. On March 21st he had ten leeches to the precordia for threatening cardiac inflammation, poultices were subsequently applied, and calomel and Dover's powder given every three hours with a draught of pot. nitras, potas. bicarb. and sod. phosp. 25th. Is nearly free from the pains and swelling of the limbs except in the extensors of both feet; skin still exudes an offensive copious perspiration. 26th. Gums affected. Rheumatism has quite disappeared, just as it did five years ago suddenly while the pericardium became inflamed. Calomel omitted, Dover's powders and salines continued. 27th. In the course of the night he became quite delirious and incoherent, uttering alarming shrieks so as to disturb the neighbours, with fits of fearfulness and apprehension that the ceiling was about to fall, &c. Eyes wild and restless, can scarcely be made to comprehend any question. Head hot and skin generally. Tongue dry and covered with yellow crust. No urine passed since last evening. Hands are tremulous as in delirium tremens. Hair cut short and cold applied to head, hot mustard fomentations to the feet. Opii gr. i 3tiis horis with effervescing draughts. Furious delirium continued all the day; four persons were required to keep him in bed, he would not take the pills or mixture. At 5 P. M. Mr. Culpepper gave him gr. j of opium, and at 9 P. M. gr. ij, matters were then greatly worse. At 11 P. M. Mr. C. was sent for, the patient was said to be in a strong fit of convulsions. When he saw him, he was in a terribly excited state, eyes staring, jaws clenched, heart beating violently. Pulse 130. Great heat of surface. Tr. digitalis 3ij + tr. opii 3j was directed to be given in two doses, at 12 and 3 A. M. At 6 A. M. he had liq. opii sed. 3j in two doses. I saw him with Mr. Culpepper at 9.30 A. M., and learned the above history and that he had had no sleep for two nights. Pulse 117, of good force. Tongue denuded, cracked, red, covered with sordes. Is partially conscious, does what he is told, says he has no pain anywhere, is constantly talking deliriously. Rheumatism has quite disappeared in spite of counter-irritation to the limbs. Urine passed in bed. Head rather hot. Heart's sounds fairly clear, no pericardial effusion, slight questionable exocardial bruit. Right pupil dilated until lately, is now of medium size and fixed. Left eye lost. No pneumonia or bronchitis. We agreed that he should have six leeches to the temples, cold to his head, and gr. ½ of tartar emetic every half hour.

31st. He began the treatment at 11 A. M. of 28th, and took gr. ½ every half-hour till 11 P. M., when the pulse was 95, the skin was cool, and the delirium nearly abated, in short everything going on well, which induced Mr. C. to give the mixture less frequently, every one or two hours. At 5 A. M. of 29th he was not so well, so the mixture was given as before with liq. opii sed. ℥iv in each dose, and from that time to 10 P. M. of 30th he has made rapid and permanent improvement, and is now quite himself again in every respect, asking for and taking food, and knowing every body about him; delirium quite ceased. In fact but for the return of the pain and swelling of the right hand one could not say what had been the matter. The left shoulder is also painful. Complexion clear, countenance calm, pulse 86, and respiration tranquil.

April 1st. Sleeps and eats well; omit the antimony and opium. 2d. A light tonic with sodæ phosph. was given, as the urine still deposited lithates. Joints free from rheumatism. 6th. Is up and dressed and considers himself quite well. Mr. Culpepper, to whose kindness I am indebted for the report of the case, adds that during the four days he took over 30 grains of

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tartar emetic and ʒij of liq. opii sedat. Rheumatic pains reappeared on night of 29th and continued till April 3d; all other symptoms gradually but most distinctly abated, and not the slightest bad effect was produced by the antimony, no approach even to nausea or sickness, or purging, or depression of the heart's action. After the 30th the medicine was given less frequently.

REMARKS.—There can be no question that the tartar emetic was really the efficient means of this patient's recovery. Opium had been taken previously without benefit, and was not given the first day, when nevertheless a considerable sedative effect was produced. The relapse which ensued when the antimonial was given less frequently, and the steady improvement after it was resumed at the former rate, prove that it was the chief remedial agent. Its action seems to have been remarkably limited to the brain calming the excitement of its tissue without producing any other notable effect. The case was evidently not one of ordinary rheumatic fever delirium; there seems to have been actual metastasis of the morbid action from the joints to the brain, with subsequent recurrence of it in its usual site. Considering that the heart had been severely attacked before I think it is very doubtful whether there was any actual affection of it on this occasion. If there was it was slight, and had I believe no connection whatever with the cerebral symptoms. Altogether the case may stand for a Παραδειγμα of sthenic delirium.

The following case related by Dr. Posner[1] is worth comparing with the foregoing:—

No. 28.—A man, æt. 37, fell ill of acute rheumatism. Both hands were affected, the pulse was 100, and the other symptoms were as usual except that he was remarkably restless. The inflamed parts were much relieved by leeching, but the elbow-joints became engaged, and the upper arm and neck muscles were painful. On the next day after considerable delirium the joints became quite painless, the pulse was 65, the patient only complained of occipital pain. There was no indication of intercurrent delirium tremens, the cerebral disorder was viewed as a rheumatic meningitis, and treated by local detraction of blood, and ice applications, with tartar emetic opium internally, and mustard poultices to the joints which had been inflamed. The delirium continued two days and nights in spite of repeated bloodletting, the pulse fell more and more, and the joints remained painless until large doses of opium were administered, which produced on the third night sleep for seventeen hours, out of which the patient awoke rational but with severe pains in the neck and stiffness of the elbow-joints. The pulse had risen moderately and the general condition was better. After a second tranquil night the pain returned in the joints which had become affected with all its former severity, and this condition lasted some days, when it suddenly ceased, and in its place the old cerebral symptoms returned. These yielded again to the opiate treatment, and the joints became affected for the third time, and remained so until the disorder disappeared entirely in about fourteen days. The heart was never attacked.

No. 29.—Mr. L., æt. 25, a delicate man, seen in consultation with Mr. G. Brown, Dec. 13th. He had been ill about ten days suffering with

[1] "Med. Centr. Ztg.," xxviii., 27; 1859.

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rheumatic pain and latterly with some pleuro-pneumonia of both lungs at the posterior bases, most marked and extensive on the right. Respiration very quick and shallow, 60 in the minute. Pulse 108, weak. Skin cool. No cough, or expectoration. Extreme thirst. Tongue thickly coated. Heart's sounds normal. Ordered mist. pot. citrat. efferv. ℥j, tr. opii ♏vj, pot. iod. gr. jss, spt. æth. chlor. ♏xij, *4tis horis*. Opii gr. j *statim*. Dec. 14th. Slept well, respiration 30; feels better. In the course of the following night Mr. G. B. was sent for, as the patient had become "raving mad." He gave him gr. j of acet. morph. + gr. v of calomel, and repeated the same in two hours. This speedily quieted him, so that the following day he was quite rational. He was now well supported with a very generous diet, and made a good recovery.

No. 30.—W., f., æt. 30 (about), seen Sept. 10th. Has had swelling and purpuric eruption on right leg last four days, and the last two on right elbow. Leg much swelled and very tender. Is markedly weak, has not been without vegetables. In two days with iron and quinine and citric acid the purpura had disappeared, and two days later rheumatism commenced. Nitre and citrate of potash saline. 18th. Was delirious all last night, is rational this morning, but intellect not quite clear. Heart's sounds normal; ordered mist. ammon. acet. ℥j + ammon. carb. gr. iij, *4tis horis*. Brandy ℥ss *2dis horis*. Broth diet. Beef-tea. After this there was no more delirium, but the rheumatism though never more than subacute lingered about her for a long time. She did not leave the hospital till the end of October.

No. 31.—Mrs. B., a young-looking primipara, confined six days ago, seen Jan. 27th with Mr. Ferguson. She had a quick and on the whole favourable labour: the pains being sharp and strong. The milk and lochia have continued: she has had no unfavourable uterine or other symptoms, no indication of fever. She has been quite sleepless and maniacal, raving and talking continually ever since her confinement in spite of large doses of opium, as much as ℥ss of liq. opii sed. in one day, and some large doses of henbane. They have quieted her a little, but not much. She answers quite rationally when spoken to by me, but as soon as she is left talks deliriously. Urine normal. Bowels have been confined, are open now, and she has been better since. Pulse of tolerable strength, 88. Circulation active in forehead, the skin reddish and is scarcely pale for a moment after the pressure is removed. We agreed to give ant. pot. tart. gr. ¼ + liq. opii sedat. ♏x *2dis horis*. This medication made her much more delirious; it was difficult to keep her in bed. Mr. F. then administered tr. hyoscy. ℥ij, *3tiis horis*, with which she became quieter; had a good night Feb. 2d, and improved materially. The antimony caused vomiting after four doses and flushing of the face. She went on taking tr. hyoscy. About ℥x daily for some days and quite recovered.

Remarks.—In this last case the treatment which succeeded so well in the first was evidently inappropriate. Yet from the appearance and condition of the patient I had great hopes that it would prove successful. Perhaps it may not have been altogether useless, by rendering the brain more amenable to the influence of the henbane than it had been previously. In this respect the utility of what are called lowering remedies is I think sometimes overlooked. They may not apparently effect much themselves, but they prepare the way for others. The conclusions to be drawn from the above cases seem to be these. (1) That the quality of the *vis nervosa* in delirious disorder varies greatly. (2) That it may be very difficult to ap-

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preciate or gauge this quality correctly. (3) That nevertheless it is most important to do so, as the treatment depends upon it. (4) That any exclusive mode of treatment by stimulation, or the reverse, or by sedatives is out of the question.

CHAPTER X.

DELIRIUM TREMENS.

We next come to the state known as delirium tremens. This is for the most part considered to be invariably the result of alcoholic excess, but I think there can be little doubt that a state closely resembling it, if not identical, may be generated by other causes. Watson states that this may happen from prolonged anxiety, J. Johnson from over-study. In continued fever a state closely resembling delirium tremens is not unfrequent. The case is narrated[1] of a stoker of good character serving on board H. M. S. Reynard, who fell apparently in consequence of excitement at the murder of two of his shipmates by the Japanese into a state of perfect delirium tremens, not one symptom being absent. It was proved that he had not been indulging in alcoholic excess. He was put to sleep with tr. opii ♏ 40 + chlorof. ♏ xv. Fox records[2] a case to the same effect, the disorder supervening on exposure to cold and wet. He is positive that no indulgence in intoxicating liquors had anything to do with its production. Dr. Monckton[3] relates the case of a female, æt. 28, who rather more than three months after her confinement presented an almost typical state of traumatic delirium tremens; "the breast abscess consummating the overthrow of brain equilibrium," for which previous and successive mental shocks had prepared the way. This testimony as to the production of delirium tremens by other causes than alcoholic seems to me very important, as proving that the peculiar morbid state is not necessarily one of poisoning at all. It may be a sequela, or result of poisoning matter, which has passed away from the system, or may be solely a diathesis. The discussion which has lately arisen respecting the proper treatment of delirium tremens makes a careful reconsideration of its pathology necessary. Those who contend that the disease is specific and dependent upon alcoholic poisoning deny that it ever originates from deprivation of the customary stimulus, and assert that in all instances where this is apparently the case the paroxysm has only been accelerated in its arrival by the accident or disorder, which has interfered with the usual indulgence. Dr. Marston however

[1] "Lancet," Oct. 11th, 1862.
[2] "Lancet," May 7th, 1859.
[3] "Edin. Med. J.," Oct. 1860.

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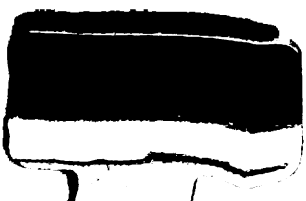

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